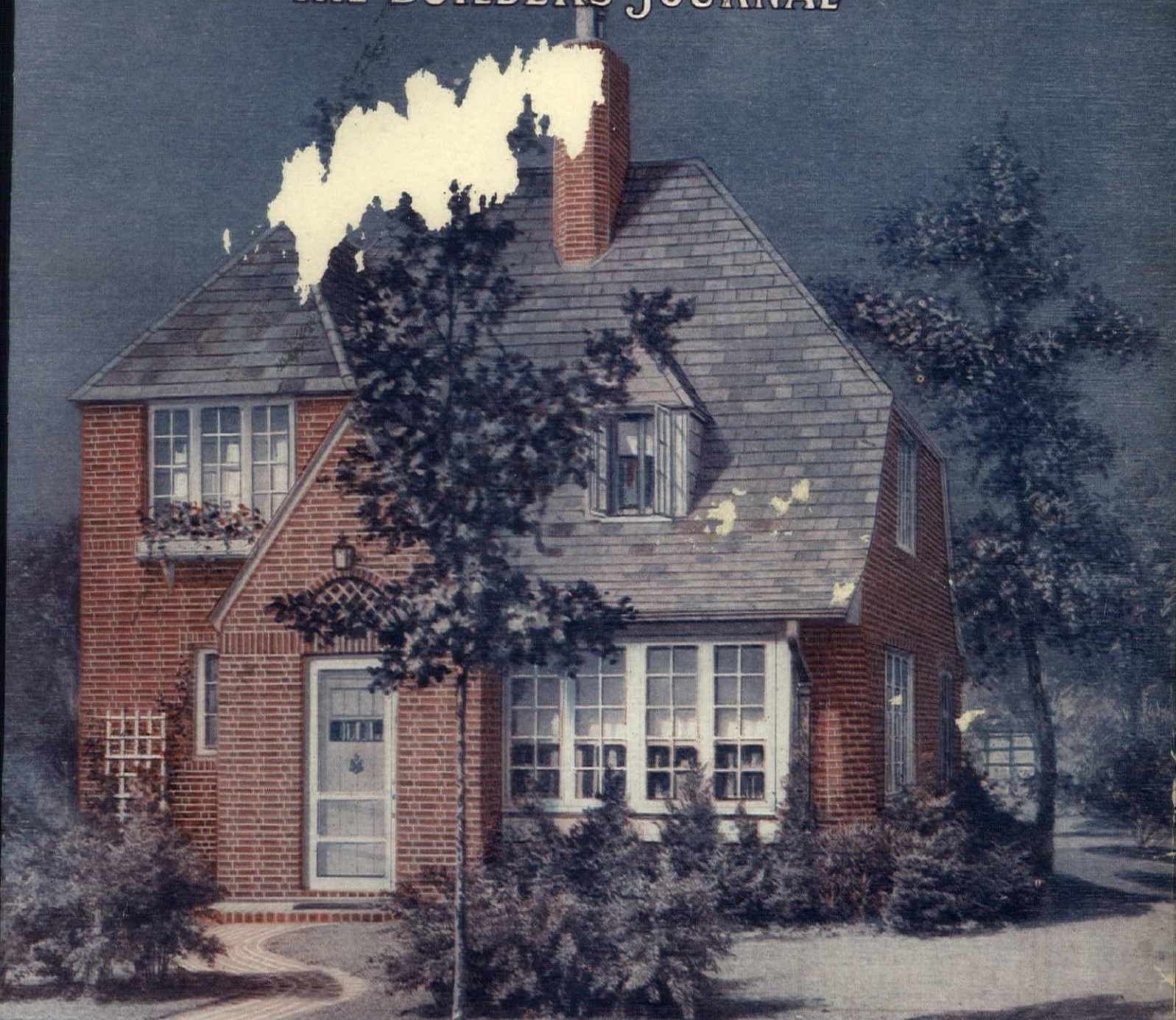
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With Which is Incorporated

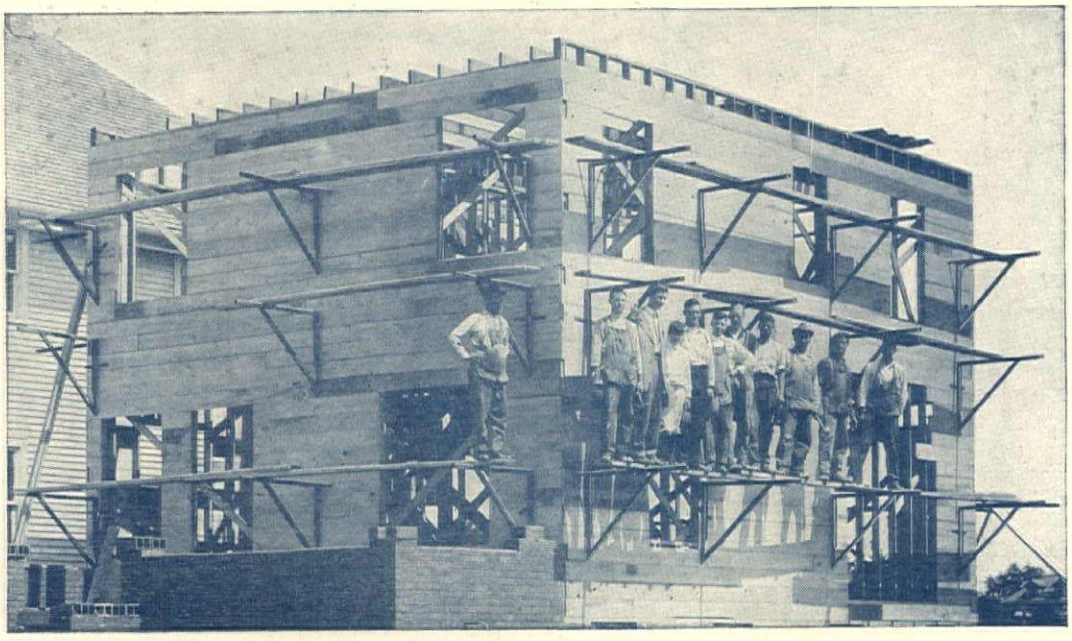
The Permanent Builder and The Builders' Journal



35 Cents

February 1925

QVALITY LEAVES ITS IMPRINT

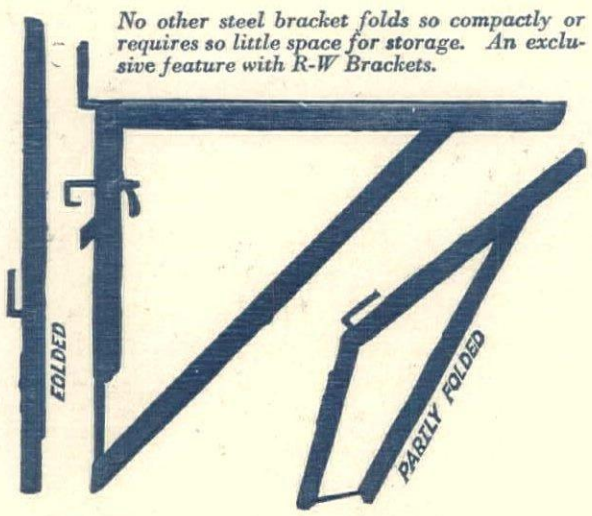


R-W Steel Folding Builders' Brackets

Look at the load supported on three **R-W** Builders' Brackets! This is a much greater load than ordinary working conditions would ever demand—affording a tremendous margin of safety.

R-W Builders' Brackets are not only the strongest, but the most practical. They fold into convenient form for handling and take up little room when stored. No more expensive than wood brackets, yet last a lifetime. When a job calls for two dozen or more brackets, **R-W Steel Folding Builders' Brackets** actually—

No other steel bracket folds so compactly or requires so little space for storage. An exclusive feature with R-W Brackets.



Save Their Cost!

R-W Brackets are very easy to attach—the hook or tail screw for fastening to sheathing and studding insures complete safety, while sway braces prevent swinging. Made entirely of high-grade steel and reinforced to provide strength and durability.

Illustration shows the No. 231 with sway brace on upright. The No. 261 is the same, but has sway braces riveted to side of top bar.

R-W Builders' Brackets are packed one dozen to a crate. If your hardware or lumber dealer can't supply you, ask him to order them for you from our nearest branch.

New York
Boston
Philadelphia
Cleveland
Cincinnati
Indianapolis
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Richards-Wilcox Mfg. Co.

"A Hanger for any Door that Slides."

AURORA, ILLINOIS, U.S.A.

RICHARDS-WILCOX CANADIAN CO., LTD.
Winnipeg LONDON, ONT. Montreal

Chicago
Minneapolis
Omaha
Kansas City
Los Angeles
San Francisco
Seattle

(823)

Make Instead of Losing Money Build in Winter



Residence—Wm. Mills, Cedar Rapids, Iowa. Architect—Wm. J. Brown. Stuceo Contractor—Chas. R. Carpenter. Bishopric Base applied and left standing during Winter. Stucco applied in Spring.

—With Bishopric

DON'T risk losing your good men through the winter. Keep them busy covering the buildings with Bishopric Base. It is easily and quickly applied. Scratch in Bishopric Stucco—freezing weather will not effect its set—and you can then go ahead with the inside—your men can work in comfort.



The Roll and The Drum!

Think of the Tremendous Saving

Mr. Contractor, keep your good men busy. Make instead of losing money during the winter season.

It means an all-year business for you. Have your houses ready for sale with the first day of spring.

Write for Bishopric booklet, "For All Time and Clime" —beautifully illustrated—working details—specifications. Let us help you with your Building Problems.

Bishopric is Sold by Dealers Everywhere

The BISHOPRIC MANUFACTURING Co.
ESTE AVE. CINCINNATI, OHIO.
NEW YORK CITY CINCINNATI OTTAWA, CANADA

The BISHOPRIC MFG. CO. OF CALIFORNIA
LOS ANGELES

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The Permanent Builder and The Builders' Journal

Vol. XLVII, No. 2

FEBRUARY, 1925

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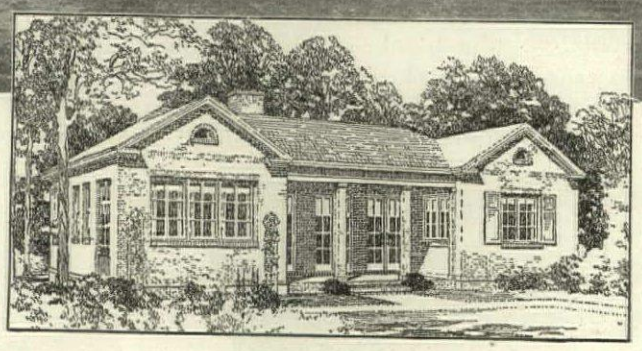
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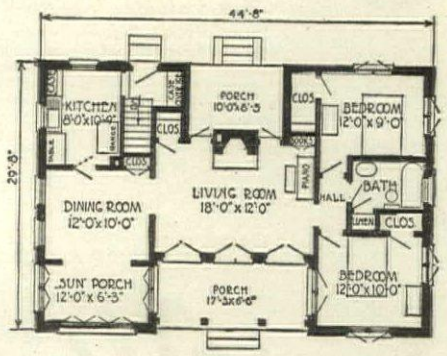
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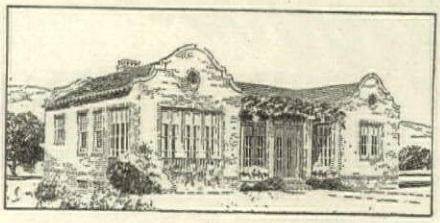




This photograph shows Design No. 515 as built from our plans for Mr. R. A. Bolte, Chicago. The pen sketch and floor plan show this design as pictured in our 5-room "Bungalow and Small House Plan" booklet. The lower sketch suggests an alternative exterior. A set of four of these books, containing a total of 104 designs of 3 to 8-room homes, sent for $1.00. Your money back if you aren't satisfied.

The Demand for Face Brick Homes Is Steadily Growing





THE Face Brick home has come to stay. Everywhere throughout the country there are being built more Face Brick homes than ever before. The reason is obvious.

People everywhere recognize the economy of this enduring material which saves far more than its slight extra initial cost through reduced costs in repairs, repainting, insurance rates and fuel.

Its artistic beauty, growing more mellow and charming with the passing years, always guarantees a higher market value.

These home builders naturally seek the contractor who has developed as a builder of Face Brick homes. This Association issues numerous technical and plan books which will help you get this business. Write for a list of these publications.

THE AMERICAN FACE BRICK ASSOCIATION

1764 Peoples Life Building · Chicago, Illinois



Here's a Wonderful New Shingle!

Have you seen the new improved Barrett Giant Shingles?

They're extra large (12 x 14 inches). Far thicker than the ordinary asphalt shingle, they're handsomer, more rugged in appearance—give a good shadow line.

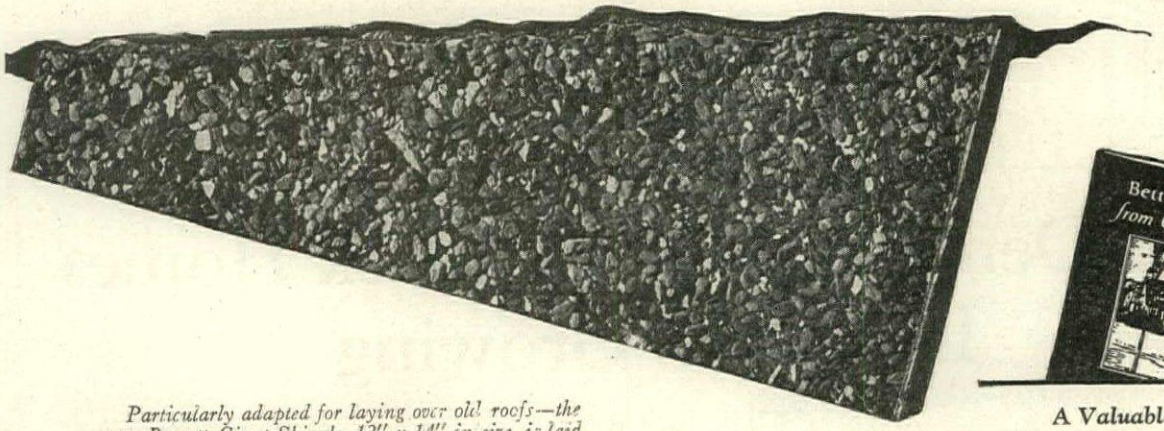
Giant Shingles can be laid quickly. With their 12-inch width—the maximum width that can be satisfactorily fastened with two nails—fewer shingles are needed per square.

While Giants are ideal for new construction, they are especially adapted for re-roofing jobs.

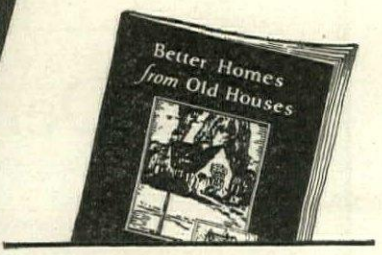
Because of their extra weight and rigidity they can be nailed down right over the old worn-out roof. This saves time, trouble and money.

Giants give a permanent roof. They never rot or rust—never need painting or staining. Moreover, they're fire-safe—proof against flying sparks and embers.

They come in soft red, moss green and blue-black. Any man who takes pride in his work—who wants to give his customers a handsome permanent maintenance-free roof—should see Barrett Giant Shingles.



Particularly adapted for laying over old roofs—the new Barrett Giant Shingle, 12" x 14" in size, is laid with 5" exposure.



A Valuable Free Book

"Better Homes from Old Houses" gives ideas for remodeling old-fashioned houses into handsome modern homes. Thousands of carpenter-contractors are putting this practical book into the hands of owners of old houses—and supplying the labor needed when the alterations start. Send for your sample copy of this business-building book.

MAIL THIS COUPON TODAY

THE BARRETT COMPANY
40 Rector St., New York

Please send me free sample copy of your business-building book—"Better Homes from Old Houses." The address of my building supply dealer is given below.

Your Name .....

Street Address .....

Town ..... State .....

Your Dealer's Name .....

Dealer's Address .....

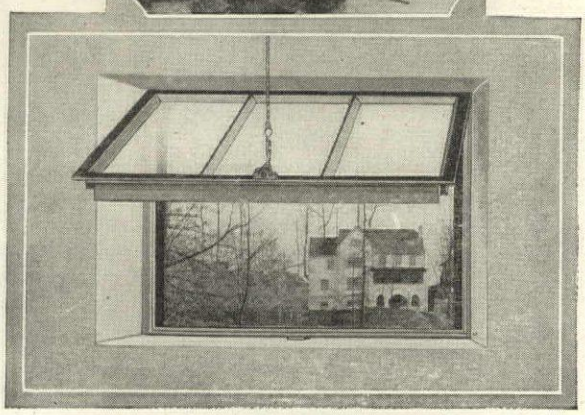
Barrett ROOFINGS

THE BARRETT COMPANY, 40 RECTOR ST., NEW YORK

In Canada: The Barrett Company, Limited
2021 St. Hubert Street, Montreal, Que., Canada







Lupton Windows of steel help to make the house a home—

use them from cellar to attic

CHEER, comfort and convenience come with Lupton Steel Windows. They open and close readily, are easy to wash, and offer the least possible obstruction to light and air.

The graceful lines and proportions of Lupton Windows please the eye, too, while their durable copper-steel construction satisfies the economical instincts of home builders. Let us tell you more of these desirable windows that help make the house a home.

Lupton Steel Basement Windows brighten up the basement. They open easily, lock securely, and never rattle or rot. Quantity production in standard sizes makes them very reasonably priced. Write for the address of your nearest distributor

ATLANTA
BOSTON
BUFFALO
CHICAGO
CLEVELAND

DALLAS
DETROIT
NEWARK
NEW YORK
PITTSBURGH

DAVID LUPTON'S SONS CO.

Founded 1871

PHILADELPHIA

687 M W L

Greater Sales Possibilities

with the improved

PENBERTHY PRODUCTS

NEW MODEL "R"

Automatic Cellar Drainer



Improved in every way—more efficient, more economical, more reliable—more durable—the new Model "R" Penberthy Automatic Cellar Drainer opens up a new field of profitable business for enterprising plumbing contractors—because it can be installed under conditions where other cellar drainers would be utterly useless.

The famous Model "L" Penberthy Automatic Cellar Drainer has long been recognized as the best device of its kind, but the new improved model far surpasses it in every way.

Consider this: Even the smallest size, No. 1, with only 25 pounds water pressure will elevate 340 gallons of water per hour three feet, or 240 gallons 6 feet. You cannot obtain results anywhere near these figures with any other cellar drainer made —and that's not all—by any means.

Write us for literature describing this improved model in detail. Place your orders with your jobber.

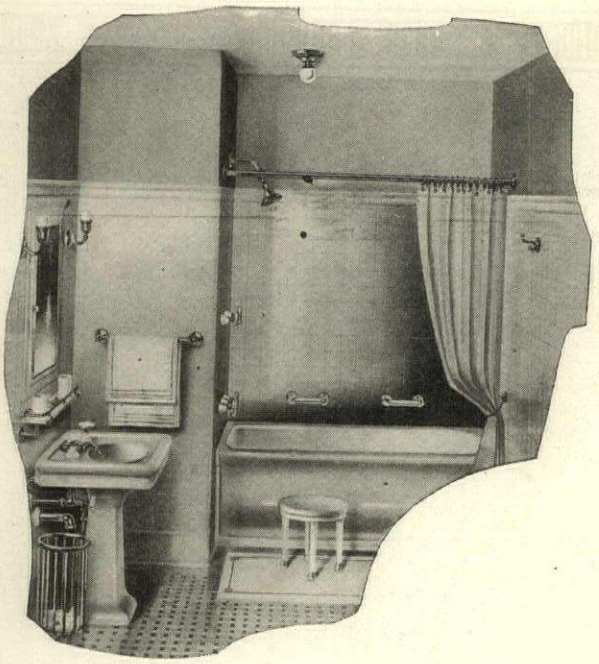
PENBERTHY INJECTOR COMPANY

Established 1886

DETROIT
MICHIGAN

New York Depot
71 Beekman St.

Canadian Plant
Windsor, Ontario



You can protect a whole bathroom with only 30 yards of Metal Lath

IF you use KNO-BURN Metal Lath you'll save yourself a world of possible trouble from plaster cracks, falling ceilings, peeling walls and other expensive up-keep jobs at a very slight additional cost.

If you can't afford to use this crack-preventing, fire-safe plaster base in every room, at least put it in the places that need it most—in all bathrooms, over the furnace, under and around the stair wells and on the ceilings of the principal living rooms.

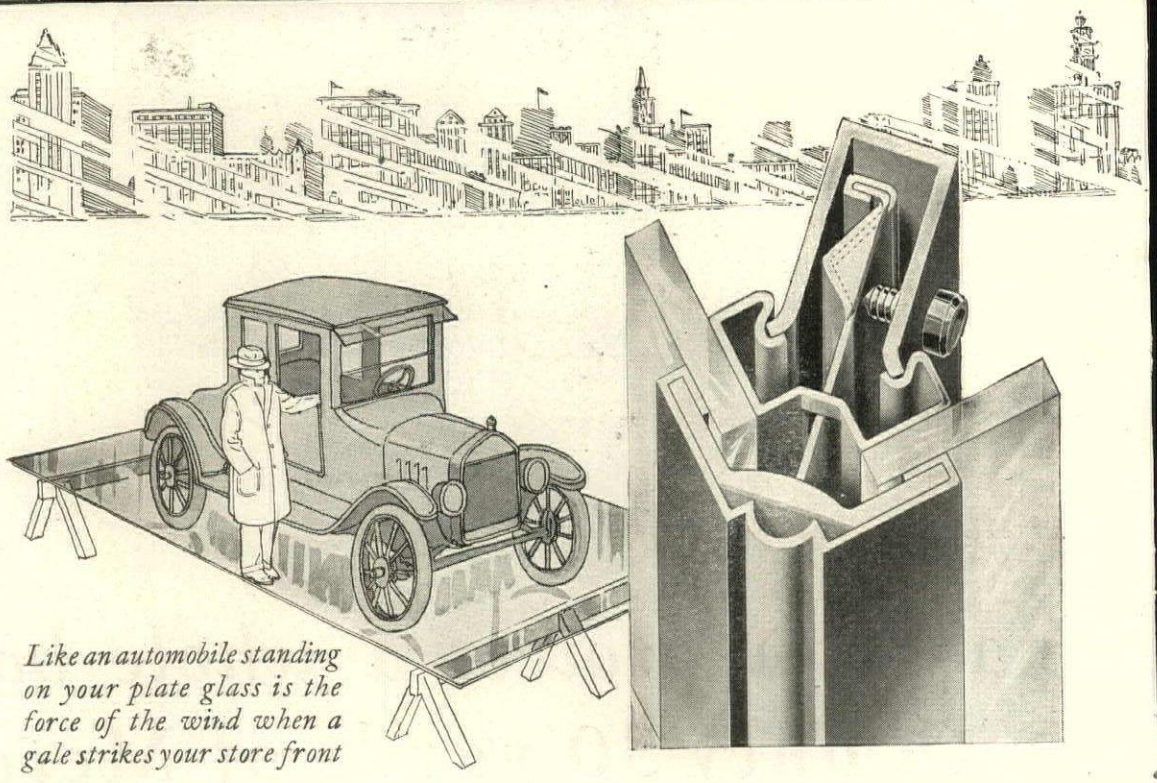
It pays for itself in repairs saved, in satisfied clients and tenants, in reputation gained and in new business obtained through good-will.

Let us send you a sample of KNO-BURN Metal Lath together with specifications for its use.

North Western Expanded Metal Co.
1204 Old Colony Bldg. *CHICAGO*

NORTH WESTERN
Kno-Burn
METAL LATH

"THE STEEL HEART OF PLASTER," STOPS FIRE—PREVENTS CRACKS



Like an automobile standing on your plate glass is the force of the wind when a gale strikes your store front

Zouri Indirect Key

When a forty-mile wind strikes the store fronts on Michigan Boulevard, Chicago, the plate glass is put under a stress of about 8 pounds per square foot. When a gale from the East blows sixty-five miles an hour a window 8 x 12 feet may have to sustain a total pressure of 2016 pounds. This is the equivalent of a Ford Coupe and a 165-pound driver standing on the glass! If the glass is held only by direct screw pressure an extra strain or pinch here and there is



Write for this free book—"Getting People In"

In a manner helpful to architect, contractor and merchant, it gives plans and diagrams showing the best approved methods of arranging window display space and assuring permanency in the setting of the glass.

ZOURI KEY-SET STORE FRONT CONSTRUCTION



Preferred by merchants and building owners

-Set Store Fronts

almost sure to start a crash. Only Zouri's Indirect, Key-Set Method, which holds the glass in an even, velvety grip all around, distributes the stress evenly and enables the window to weather such storms. That's why owners of Michigan Boulevard windows that have repeatedly blown out eventually specify Zouri construction. Contractors find Zouri store fronts easier and quicker to set, safest, most lasting in service—hence most profitable to handle.

Zouri Drawn Metals Company

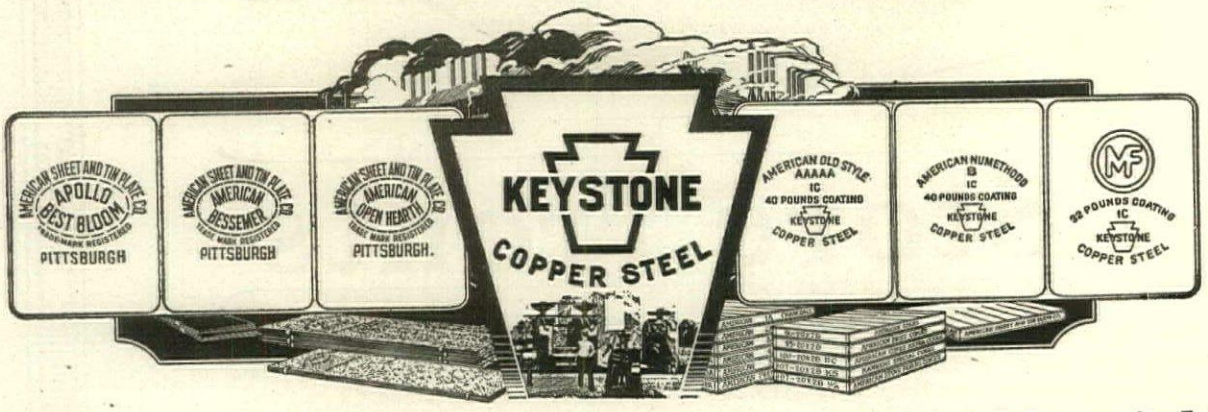
Factory and General Offices
1608 East End Avenue, Chicago Heights, Illinois

LISTED BY THE UNDERWRITERS LABORATORIES

KEYSTONE COPPER STEEL

EXTEND the life and service of sheet metal work by using only products that have an established reputation for durability and general trustworthiness. We are producers of high quality

Steel Sheets and Tin Plates



Keystone Copper Steel lasts longest in the building field

The destructive enemy of sheet metal is *rust.* It is a well established fact that an alloy of copper gives to Steel Sheets and Tin Plates the maximum of *rust-resistance.* Keystone Copper Steel is unequaled for roofing, siding, spouting, gutters, culverts, metal lath, and similar uses. It assures roofs and sheet metal work that will withstand the ravages of fire, wear and weather. Shall we send proofs from actual service tests? We manufacture Steel Sheets and Tin Plates for all purposes and specially adapted to the requirements of builders and contractors: Black Sheets, Special Sheets, Apollo and Apollo-Keystone Galvanized Sheets, Corrugated Sheets, Formed Roofings and Siding Products, Roofing Tin Plates, Bright Tin Plate, Black Plate, etc. Sold by leading metal merchants. Our products represent the highest standards of quality and utility. Write for quotations, also our booklet — *Roofing Tin Plates.*



American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

DISTRICT SALES OFFICES

Chicago Cincinnati Denver Detroit New Orleans New York Philadelphia Pittsburgh St. Louis

Export Representatives: United States Steel Products Company, New York City

Pacific Coast Representatives: United States Steel Products Company, San Francisco, Los Angeles, Portland, Seattle

Cheapness vs. Economy



Which Plan Pays Best?

"The trouble is," complains one builder, "people set a certain price they want to pay for a home, and they want everything in it at that figure."

True, they generally do want everything modern in it, they want completely equipped homes. And if they discover, after moving in, that many extras must be purchased, dissatisfaction results and the builder's reputation suffers. But how about the "set price?" What's the best way to meet the price argument? More and more builders are doing it by emphasizing the economy of the completely-equipped home. It's a powerful sales argument. Take heating, for example. A heating plant equipped with

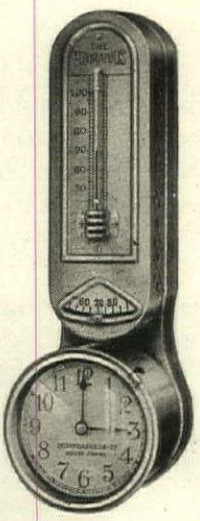
The "MINNEAPOLIS" HEAT REGULATOR

"THE HEART OF THE HEATING PLANT"

costs a little more, but the extra cost is not an expense, it's an economy factor. The Minneapolis pays for itself over and over again. It takes complete charge of temperature regulation, eliminates work, provides real heating comfort, makes the home more livable.

Such equipment helps to sell homes. Complete homes, built for economy of upkeep, are the easiest to sell. Home-buyers are willing to pay the small percentage of added cost when they realize it is far outweighed by the resultant advantages.

Let us give you complete information on the Minneapolis for any type of heating plant in which you are interested. Write today.



The New
MODEL 77
with 7-Jewel,
8-Day Clock

Minneapolis Heat Regulator Co.

Established 1885

405 East 28th Street, Minneapolis, Minn

Sold and installed by branch offices in principal cities and 20,000 heating contractors.

The story we have waited three years to tell



YOU, of course, know about Celotex. Shortly after its discovery—three years ago—this remarkable new insulating lumber was announced to builders and contractors.

But, although many millions of feet have already been built into homes, your customers have only begun to hear about it.

Celotex pointed the way to improvements in home comfort and economy so startling that even the bare facts were hard to believe.

So for three years Celotex has been tested. In thousands of homes in all sections of the country, it has proved every claim we make for it.

Now, after this thorough testing, the story of Celotex is being told fully to the home-builders of America.

It's a big story—and will be told in a big way. With one of the largest advertising campaigns ever attempted for any building material!

How it will be told

Look at the forceful double-page advertisement illustrated here!

It is the first one of a series of double-page Celotex advertisements that will appear regularly throughout the year. Ads like this will run in The Saturday Evening Post—read by at least 5,000,000 people, many of them your customers. They will also run in House & Garden and in House Beautiful—magazines read by your livest prospects, people definitely interested in building.

Newspaper space will be used, too—in dominant full pages, in the principal cities.

This advertising will tell your customers all about Celotex. It will tell them of the greater comfort and economy of insulated homes. How ordinary building materials, such as wood, brick and stucco, can not effectively stop the passage of heat—that approximately one-third of the heat generated in an ordinary house is lost through the solid walls and roof.

It will tell them how Celotex stops this waste—makes possible a new degree of year-round comfort and healthfulness. *And does all this at no extra cost* over ordinary construction.

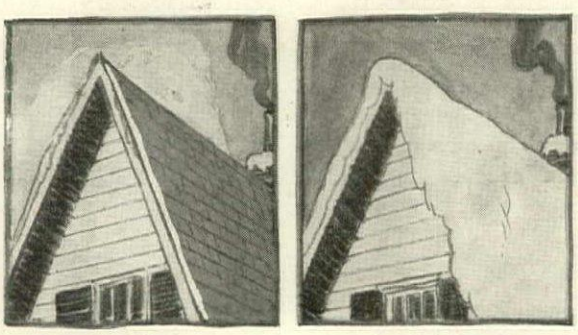
Celotex makes possible, for the first time, *in every home,* comforts hitherto only available to the rich. *The market for Celotex is as broad as the market for wood lumber itself.*

Definite selling points

Your customers will be told of the unique advantages of Celotex. They will be told how and where to use it to get the comfort they want in their homes.

How Celotex on exterior and interior walls is equal, as insulation to 3⅓ inches of solid wood, 12 inches of solid plaster, 12 inches of solid brick, or 24 inches of solid concrete.

That it has a sound-absorbing co-efficient of 31%, placing it high



Snow upon the roof of an uninsulated house when occupied melts rapidly due to the heat escaping through the materials from which the roof is built.

Snow upon the roof of an insulated house stays much longer, because there is no escaping heat to melt it



among the most effective materials for absorbing sound — making homes quieter.

But, combined with these qualities, Celotex has what no other insulating or sound-absorbing material possesses. *It has greater structural strength than the wood lumber it replaces.*

Used on the outside walls of a house and under the roof in place of sheathing, Celotex actually makes the house many times stronger. This use of Celotex gives heat insulation without extra cost. And it reduces fuel bills from one-fourth to one-third.

Your customers will learn, too, of the advantages of Celotex as a plaster base. How plaster bonds with Celotex to produce a wall many times as strong as one made of plaster and lath. And a wall less likely to crack.

Architects and lumber dealers will read all about Celotex in their professional and trade papers. They will specify Celotex, and have it in stock.

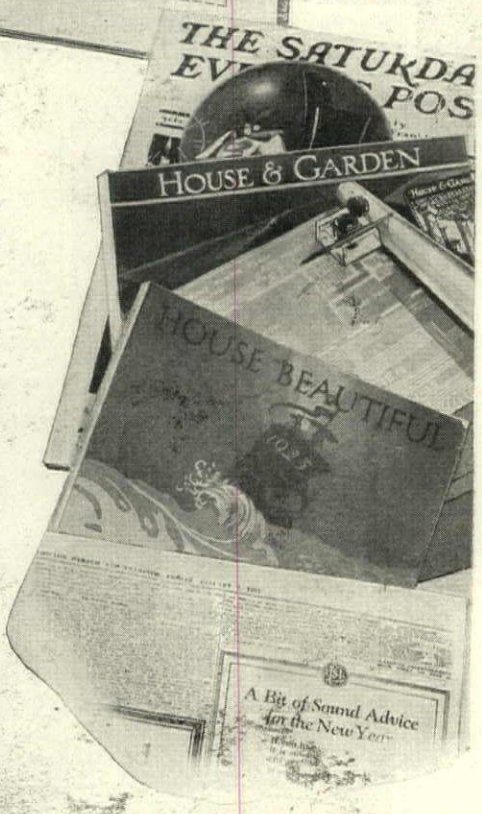
Not infrequently, but at least once every three days in the year, a Celotex ad will appear somewhere.

Your opportunity

Your customers want the kind of comfort and economy in their homes that Celotex can give. They will willingly pay more for such homes.

Every progressive contractor and builder will be quick to take advantage of this fact—both in his building and in his selling. He will make this tremendous advertising campaign work for *him*.

Write us for additional information on the value of insulated homes, and how to build them at no extra cost with Celotex. We will send you complete specifications covering all the uses of this remarkable building material. Just mail the coupon below.



THE CELOTEX COMPANY
645 N. Michigan Ave.
Chicago, Ill.

THE CELOTEX CO., Dept. 262
645 N. Michigan Ave., Chicago, Ill.

Send me full details and specifications on Celotex.

Name.....

Firm.....

Address.....

CELOTEX
INSULATING LUMBER

"There is a use for Celotex in every building"

NORTON FLOORS

[Alundum Tiles and Stair Treads]

Securing Safety and Durability



Alundum Stair Tile, 9x4x¾", is assuring a safe (slip-proof) and durable nosing on the stairs of the new Central High School, Columbus, Ohio. The use of this tile results in a surface that will never wear smooth and never wear into dangerous hollows—even under the severe traffic usual in schools.

Alundum Stair Tile is but one of the products known as Norton Floors. The others are Alundum Floor Tile, Alundum Ceramic Mosaic Tile, Alundum Aggregates and Alundum Aggregate Tile, Thresholds, Treads and Platforms. All of these products have wide application wherever there is a slipping hazard or unusually severe traffic.

Central High School, Columbus, Ohio.
Architect: Wm. B. Ittner, St. Louis, Mo.



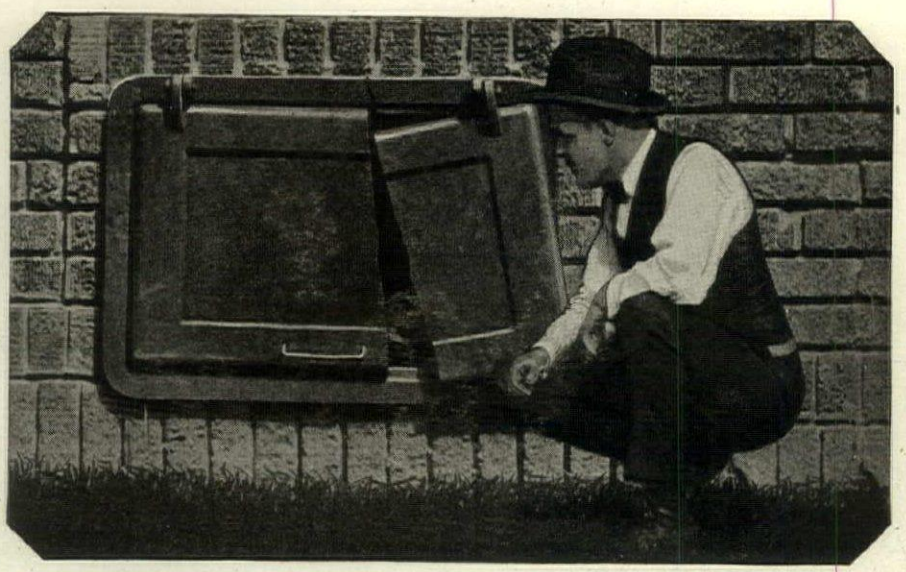


All types of Norton Floors are made permanently slip-proof, durable and quiet by the bonded electric furnace abrasive trademarked "Alundum"—long used in the well known Norton Grinding Wheels.

NORTON COMPANY Worcester, Mass.

New York Chicago Detroit Philadelphia Hamilton, Ont.

T-126

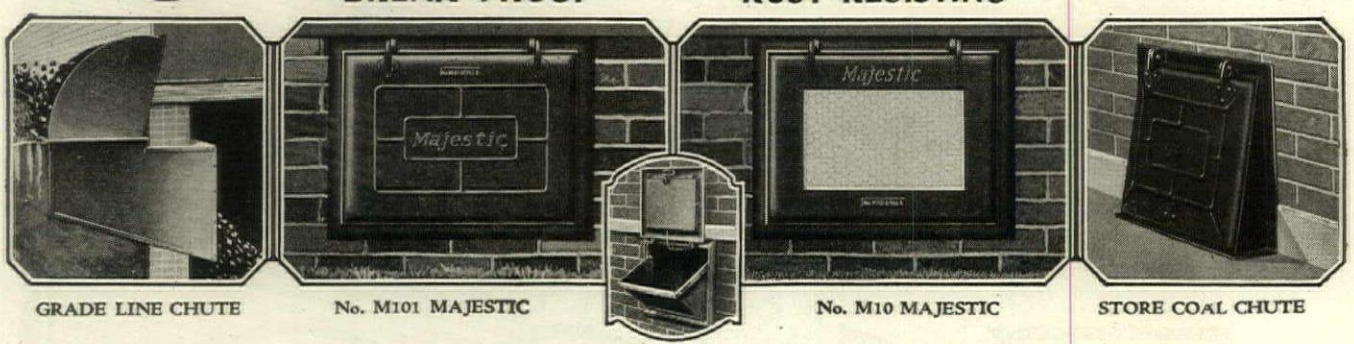


Where a Dollar Saving Cost Ten!

"Hmmm!", he says, "this is a pretty pickle!" And he thinks back to the person who saved him a dollar or two on building costs—at his expense later. Don't let any one hold this against you! The MAJESTIC Coal Window is your protection. It saves the expense of repairing or replacing a "cheap" coal window—and prevents depreciation that comes all too soon when an ordinary sash is used as a coal window. The Majestic is guaranteed break-proof—and rust-resisting—made of Certified Malleable Iron and Keystone Copper Steel. Electro-galvanized doors defy rust! There's a Majestic Coal Window to suit every house —and every purse—with or without hopper, and with glass or pressed steel door. It will pay you to use Majestic Coal Windows in the homes you build. Catalog and your dealer's name sent upon request.

Majestic Coal Window

BREAK-PROOF ~ RUST-RESISTING

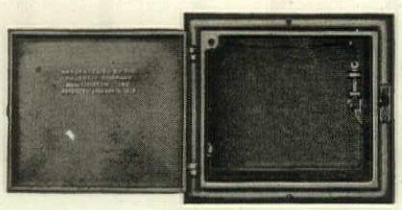


GRADE LINE CHUTE | No. M101 MAJESTIC | No. M10 MAJESTIC | STORE COAL CHUTE

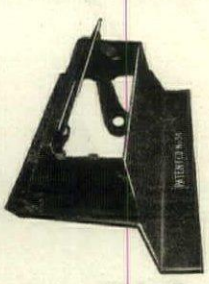
OTHER MAJESTIC PRODUCTS NEEDED IN EVERY HOME



GARBAGE RECEIVERS

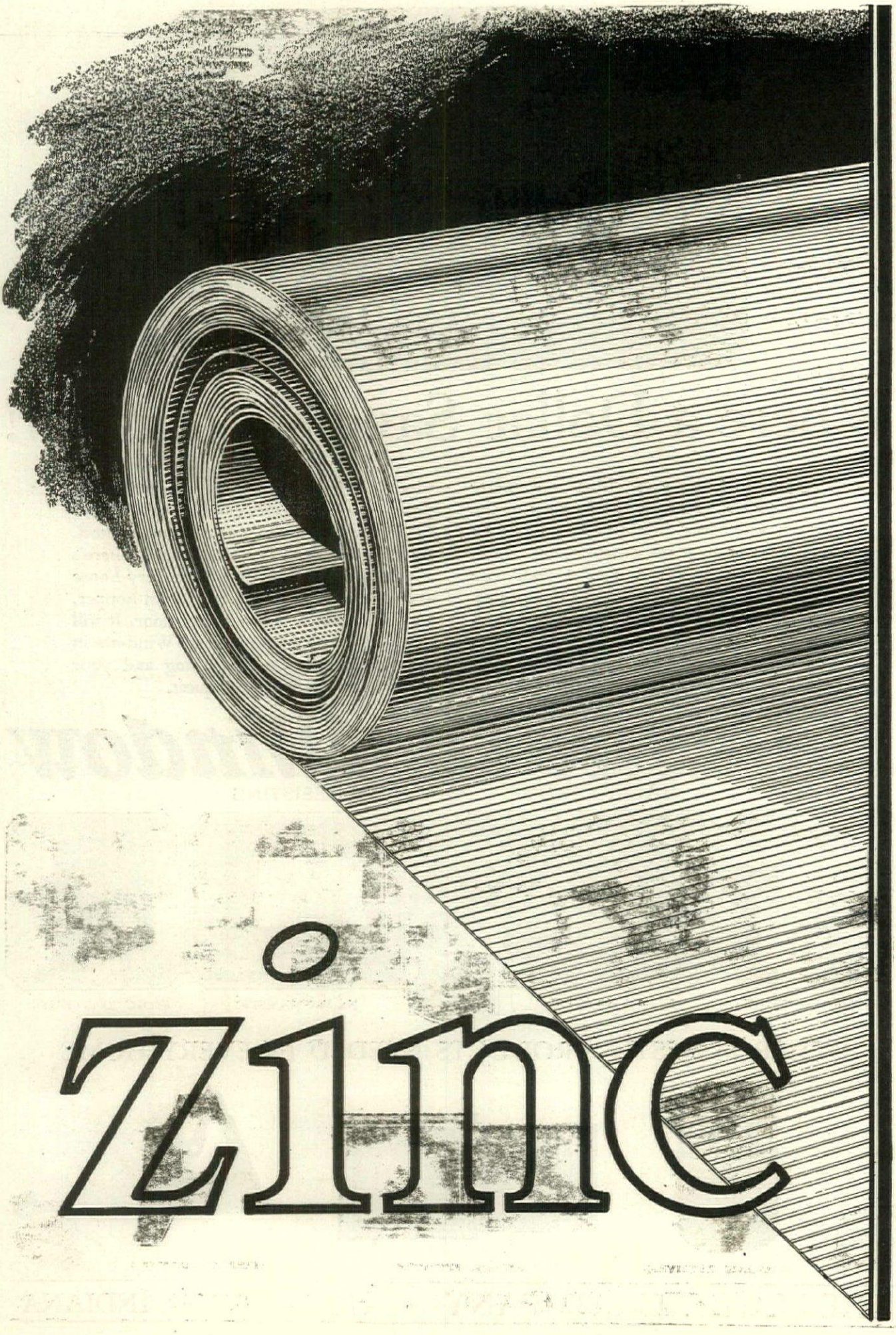


PACKAGE RECEIVERS



FIREPLACE DAMPERS

THE MAJESTIC COMPANY · HUNTINGTON, INDIANA



Zinc

A PERMANENT ROOF

Standing Seam Horse Head Zinc Roofing is shipped in casks complete with nails, Zinc for clips, and full instructions. Each cask contains enough Zinc to cover one roofing square.

Zinc roofs endure. They cannot rust. They need no protective coatings. They will not leak.

For complete information use the coupon.

The New Jersey Zinc Company

Established 1848

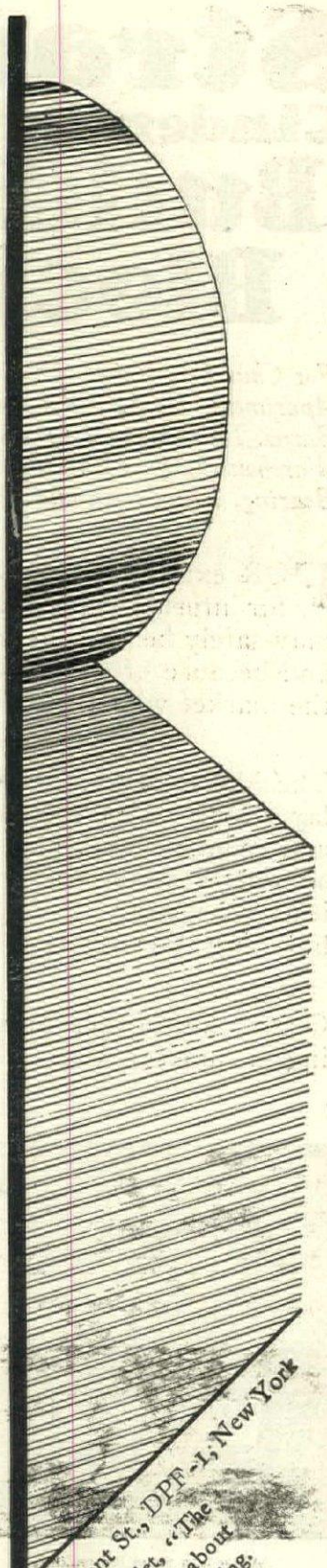
Products Distributed by

The New Jersey Zinc Sales Company

(INCORPORATED)

NEW YORK · CHICAGO · PITTSBURGH · CLEVELAND · SAN FRANCISCO

New Jersey zinc



The New Jersey Zinc Company, 160 Front St., DPF-1, New York

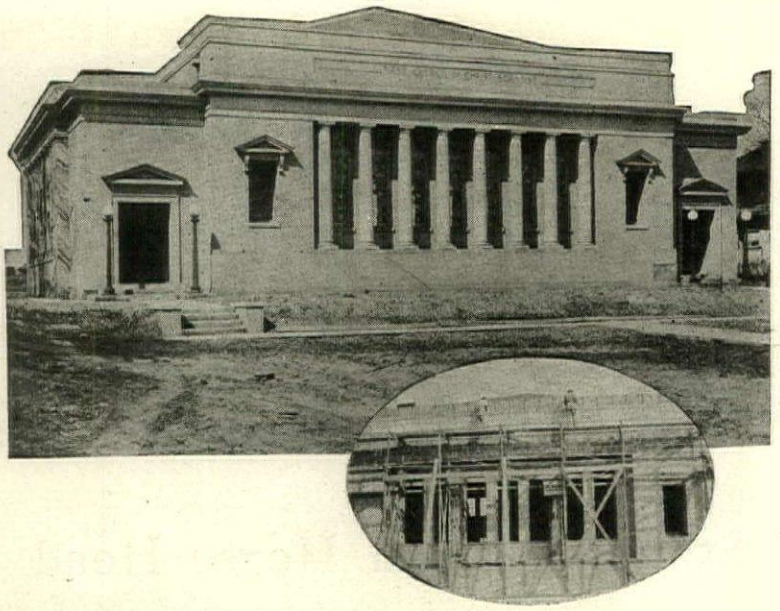
Please send me a copy of the booklet, "The roof that is ever new," telling all about Standing Seam Horse Head Zinc Roofing.

Name

Address

Straub Cinder Concrete Building Blocks

For Churches, Hotels, Theatres, Hospitals, Apartment Houses, Residences, Garages, Barns, Ice Houses, Dry Kilns, Factories, Warehouses, Office Buildings, etc. Ideal for Bearing, Foundation and Partition Walls.



THIS BEAUTIFUL CHURCH

is built of cinder block veneered with buff brick and trimmed with Indiana limestone. It carries the lowest insurance rate of any church in Springfield, Ohio.

The church was designed by Mr. S. S. Beman, a well-known Chicago architect.

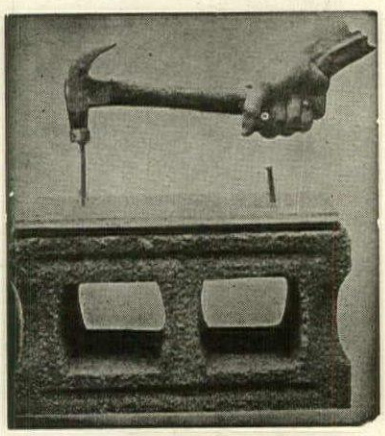
Mr. Beman says, "In my experience I have never known of a material that is more desirable for use in wall construction, and the many features which you claim as having an advantage over other materials I find are fully justified."

The photograph in oval shows the carpenters nailing the cornice to the blocks. This is one of the many unique qualities possessed only by cinder blocks that explains their rapid popularity wherever introduced.

FOR exterior work, which is to receive stucco and for interior walls and partitions, to which the plaster may safely be attached direct without furring and lath, and because of its nail-ability, there is no material on the market which can equal it.

The blocks are uniformly made, are light weight and lay quickly. One standard block displaces twelve bricks and requires less than one-half the mortar. They are *absolutely damp-proof*, fire-proof and soundproof; qualities thoroughly attested in more than ten thousand buildings of every description.

On account of their numerous unique properties, resulting in superior walls at reduced costs, Architects, Contractors and Builders say *Straub Cinder Blocks* have revolutionized the building material industry.



As good as wood for nailing, and the nails hold.

Tested and passed with high official rating by National Board of Fire Underwriters' Laboratories.

We have 50 plants in successful operation. We invite Architects, Contractors and Builders to visit and inspect our plants. Write for address of plant nearest you. Ask for our complete circular matter, test reports, etc. Your inquiry will be given prompt attention.

Responsible parties will be licensed to manufacture and sell in open territory

CROZIER-STRAUB, Inc.

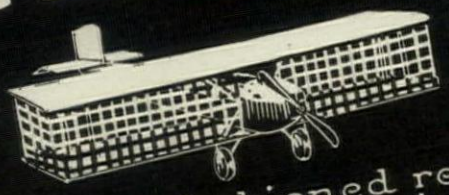
122 West 42nd Street **New York, N. Y.**

Ten Reasons Why:

1—Damp-proof, moisture-proof and frost-defying.
2—Sound-proof.
3—Tenacious with great strength.
4—Non-conductor of heat and cold.
5—Perfect key for inside plaster and outside stucco. (No wood or metal lath required inside or out.)
6—Fire-resisting.
7—As good as wood for nailing. Nails can be driven into it with ordinary hammer as easily as into wood and the nails hold.
8—Rot and vermin-proof.
9—Does not sweat—therefore requires no furring or lathing. No mold.
10—Great Saving in Cost.

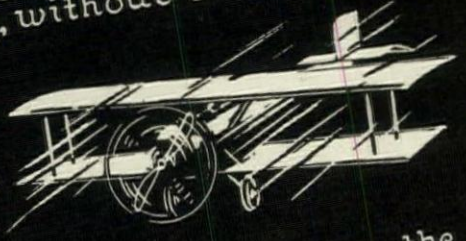
"THE AIR CAPACITY LINE!"

A CONVINCING ILLUSTRATION

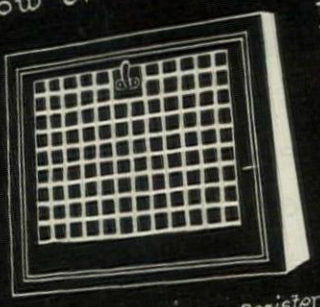


Assume for a moment that an aeroplane were built with the space between its wings enclosed with a fretwork similar to the face of an old-fashioned register: what success would the aviator have in flying? The fretwork would not allow a free flow of air between the wings, without which the plane would be worthless.

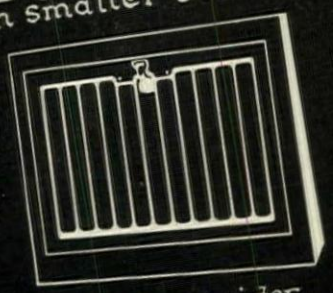
The free flow of air is just as important in warm air registers as in aeroplanes.



It is obvious that in an ordinary register, the flow of air is obstructed by excess fretwork, whereas in the H&C Register, the air flows freely on its warming way, delivering into the room ALL of the heat which the furnace sends thru the pipe. As an example, we offer for comparison, an ordinary 10 x 12 register with but 70 square inches of free area, to take care of a 10 inch pipe with 78 square inches of area — and an H&C register of even smaller size — 8 x 12 with 81 square inches of free area, —



An ordinary 10 x 12 Register 70 sq. inches of Free area.



H&C 8 x 12 Register 81 sq. inches free area.

3 square inches more than pipe area!

and the price for the greater capacity is much lower!

(Other sizes show corresponding advantages in the H&C AIR CAPACITY LINE.)

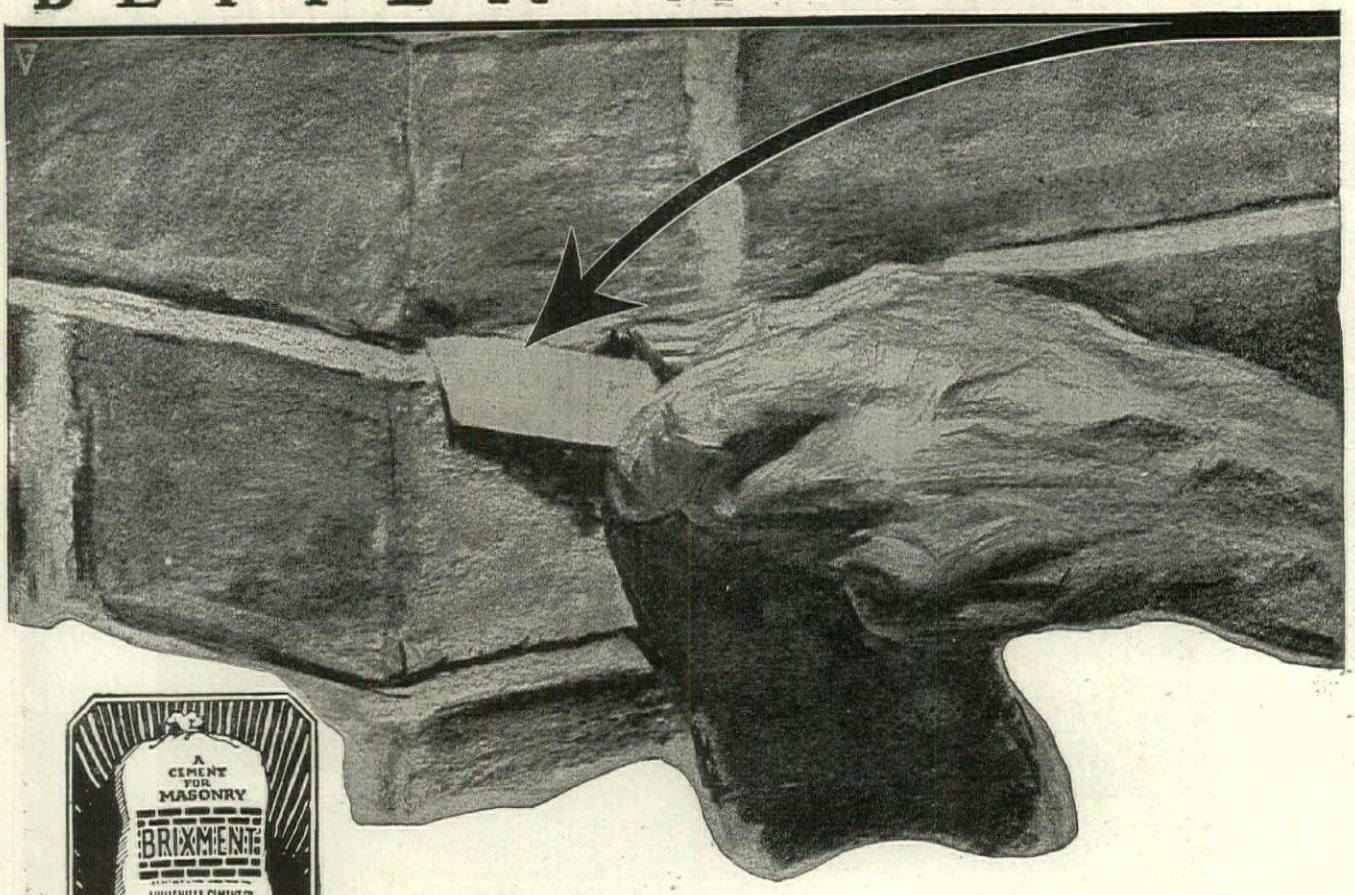
BUY YOUR REGISTERS BY AIR CAPACITY — NOT BY SIZE!

THE HART & COOLEY COMPANY, INC.

NEW-BRITAIN, CONN.

NEW YORK PHILADELPHIA CHICAGO BOSTON

BETTER MASONRY



Hard, durable joints

BRIXMENT mortar is so free and smooth in working that mortar joints of every type can be struck more easily, quickly and economically.

Sets fast enough to permit of speedy, uninterrupted work, slowly enough to retain its remarkable plasticity and hardens into clean, accurate, durable joints with a uniform strength equal to that of the brick itself.

No lime. No slaking. One part BRIXMENT; three parts sand. Requires less mortar color; will not fade the color used; can be retempered; resists moisture; less likely to freeze. Let BRIXMENT prove it on your next job. *Sold through dealers.*

for Perfect Mortar

AT LESS COST

Strike it right the first time!



Send today for this free book

Contains helpful information and convincing tests, tells how BRIXMENT has overcome the difficulties of old-fashioned mortar practices and why this standard mortar material means better, more durable, more economical masonry.

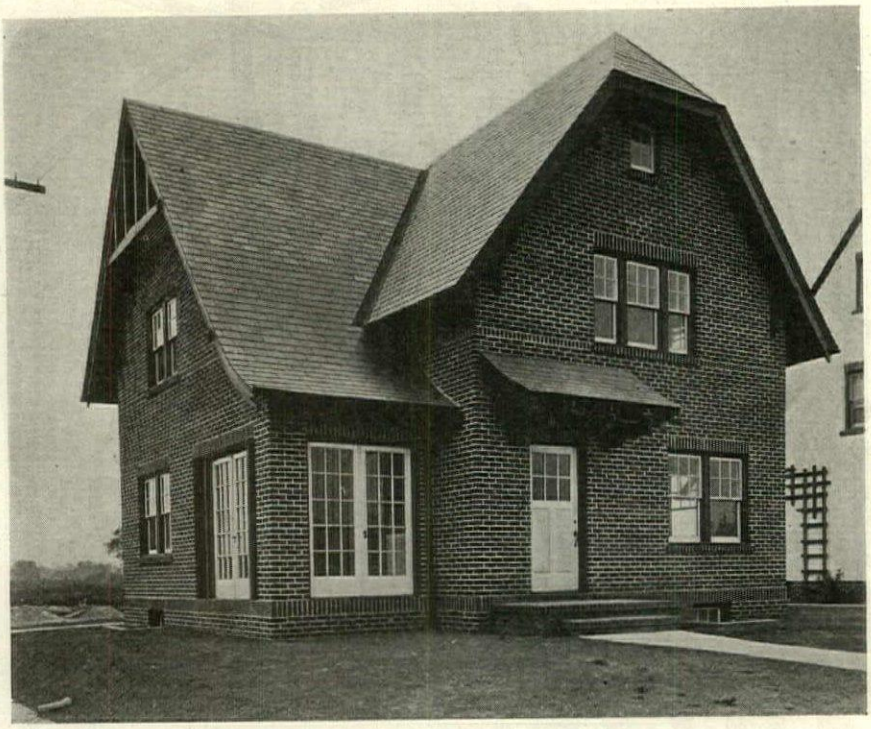
BRIXMENT Mortar for Best Results on Every Type of Joint

V-tooled, raked-out, cut-flush, convex, rodded, weathered, concave or struck—whatever the type of joint, the smooth, buttery consistency of BRIXMENT mortar lends itself more satisfactorily to architectural demands.

Send today for descriptive handbook and list of nationally known buildings in which BRIXMENT has been used exclusively for mortar. Try BRIXMENT yourself and know, at first hand, why a continually growing number of leading contractors and architects are specifying BRIXMENT exclusively on all work.

LOUISVILLE CEMENT CO., *Incorporated*, SPEED BUILDING, LOUISVILLE, KY.

BRIXMENT



There is a certain sense of simple refinement about a blue-grey slate roof. Its very neatness and subdued color instantly stir the imagination—not burdensome in cost, yet a feeling of security, long life and absence of repairs.

There are many grades of slate and the cheapest is far better and costs only slightly more than a substitute roof. Why take a chance on something which is bound to need renewal in a short time?

Slate is the oldest known roofing material and is still the best—made to meet every requirement and suit any pocketbook.



· Largest Shippers of Roofing Slate in the World ·

· VENDOR SLATE CO. Inc. ·

· EASTON-PENNSYLVANIA ·



Helps Sell the House



PROSPECTIVE home owners know that a house properly weatherstripped means lower fuel bills and a more comfortable home in winter. Improvements such as this swing many a sale.

The Home Comfort Weatherstrip is economical in cost and easy to apply. You simply tack it on, and turn the corners. No mitering, sawing or taking down windows and doors. It is also flexible; this means that when you put Home Comfort Weatherstrip on a new house, and the windows and doors warp or settle, it goes right with them, assuring a weathertight, waterproof, noiseless contact. Put Home Comfort Weatherstrip on the house when you build it. This is guaranteed to please or we'll refund your money. It'll last for years.

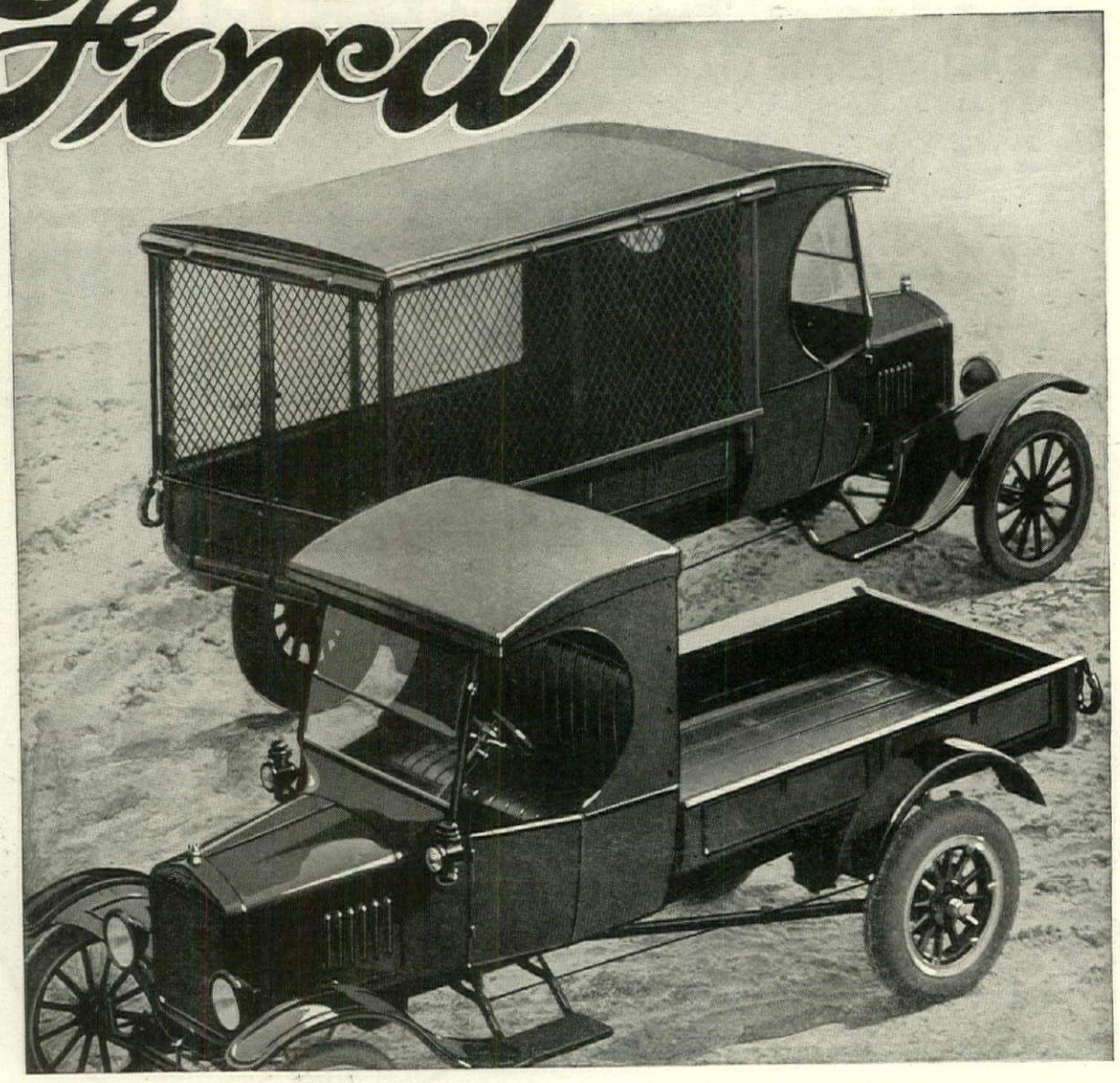
If your lumber or hardware dealer cannot supply you, order direct. Figure 20 feet for each window and door.

Accept no infringement or imitation.

E. J. WIRFS ORGANIZATION
119 SOUTH 17TH STREET, ST. LOUIS, MO.
Sole Manufacturer and Patentee

WIRFS PATENTED
HOME COMFORT
INSULATED – CUSHION – FLEXIBLE
WEATHERSTRIP
Pat. Jan. 22, 1924

Ford



The Biggest Value In a One Ton Truck

Results obtained from actual service in lines of business where rapid transportation is required, have made the Ford One Ton Truck the Standard rapid delivery unit.

Its work is dependable under all conditions of traffic; it represents only a very small item of expense, both in operation and investment. It is easily the best value in truck transportation ever offered.

Ford One Ton Truck With All Steel Body and Cab - - $485

With canopy roof, side curtains, screens and end doors - - $540

One Ton Chassis $365

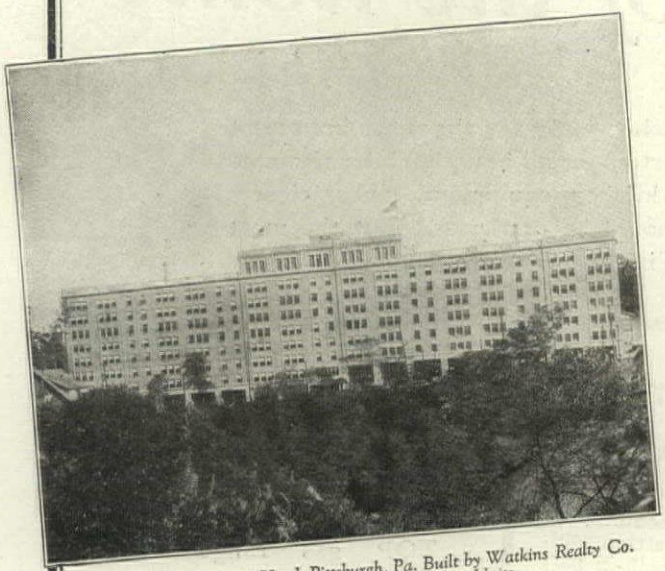
All prices f. o. b. Detroit

Authorized Ford Dealers can supply data on cost of operation covering every line of business involving motor transportation.

Ford Motor Company
Detroit

KITCHEN MAID

STANDARD KITCHEN UNITS



Morrowfield Apartment Hotel, Pittsburgh, Pa. Built by Watkins Realty Co. Equipped with Kitchen Maid Kitchen Units.



Tahama Court Apts., Detroit, Mich. 100 apartments equipped with Kitchen Maid Kitchen Units. Chas. N. Agree, Architect. Seward Construction Co., Builders.

Once more, the Builder contributes to civilization

Civilization, in its truest sense, means life in cities. Life in cities means a continual striving toward greater comfort and greater compactness. The builders who are now planning apartments or homes to be rented or sold—those who wish to attract the best and promptest purchasers—are combining convenience, compactness, style and beauty in the kitchens they plan, by the use of Kitchen Maid Units. Thus the leaders maintain their leadership by always seeking and adopting new leading ideas. You, too, can profit by the Kitchen Maid Unit idea. Send for complete catalog, dimensional drawings, and special prices to builders. Check list at right.

WASMUTH-ENDICOTT COMPANY, *Andrews, Indiana*

"LET THE KITCHEN MAID BE YOUR KITCHEN AID"

KITCHEN MAID
STANDARD UNIT SYSTEMS

MAIL THIS

WASMUTH-ENDICOTT CO.
1510 Snowden St., Andrews, Ind.
In Canada, Waterloo, Ontario

Please send me information regarding the units checked:

- ☐ **Pulmanook,** consisting of table and 4 seats folding into wall.
  - ☐ For alcove.
  - ☐ For any kitchen corner.
- ☐ **Combination IX,** consisting of cabinet, broom closet, dish closet and linen cupboards to set against wall.
- ☐ **In-A-Wall Ironing Board,** folding into wall when not in use.
- ☐ **Broom Closet.**
  - ☐ To set in any kitchen.
  - ☐ To be built into wall.
- ☐ **Dish Closets, Linen Cupboards.**
  - ☐ To be set in.
  - ☐ To be built in.
- ☐ **In-A-Wall Telephone Seat.**
- ☐ **Kitchen Maid Kitchen Cabinet.**

Name .....

Address .....

City .....

State .....

The Woman is the Real buyer of the home

TO the woman (who decides) the kitchen is by far the most important room in the house. It is her headquarters for all household departments —cleaning, washing and cooking. All kitchen equipment, sinks, closets (refrigrator and cabinets if furnished) should be first-class. But the most important single attraction in the kitchen is the gas range.

A Few Outstanding Features of Smoothtop Gas Ranges



This smoothtop is not an attachment. It is a built-in part of the complete range — which is made in 5 sizes. One burner heats several vessels, or keeps a whole dinner hot. The top holds in the heat; makes cooking smoother. The top is strong, solid and smooth. No lifting, pots slide and don't tip. With lids off burners give direct, concentrated heat. Easy to clean. Reduces maintenance expense and complaints.

50% MORE COOKING SPACE

DOUBLE WORKING SPACE

NO MORE FLOOR SPACE

If the range attracts her she is likely to be half "sold" after inspecting it.

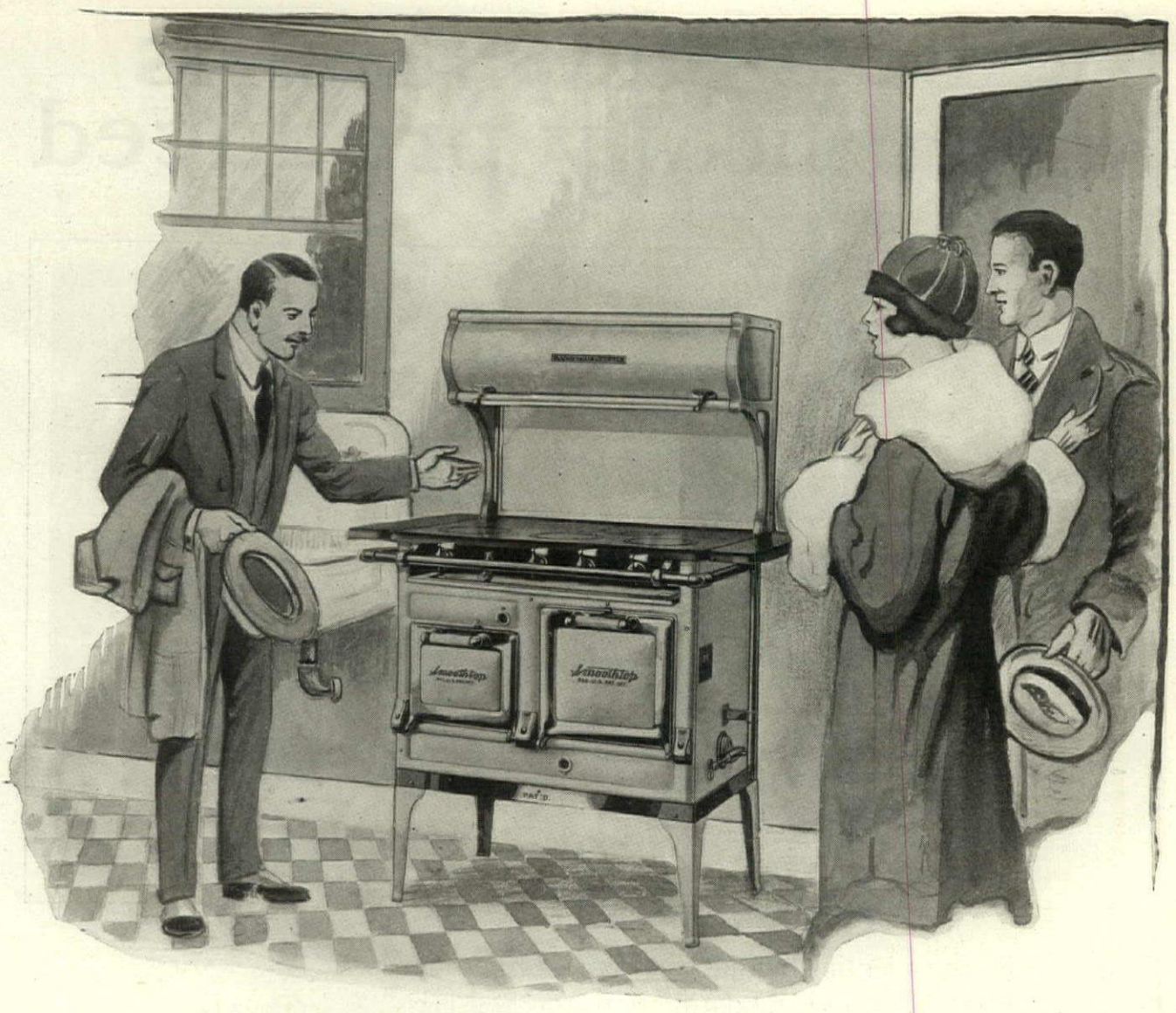
Hundreds of builders have sold houses or rented them with the help of the SMOOTHTOP gas range in the kitchen.

It makes the kitchen twice as attractive to a woman, and by talking about the wonderful cooking and labor saving features of the top alone you can quickly convince her that you know what a woman wants in a home.

There are many big, exclusive SMOOTHTOP features which make a hit with the housewife as soon as she steps into the kitchen. A few of them are noted on the left.

Smoothtop
REG. U.S. PAT. OFF.
Gas Ranges

A VULCAN PRODUCT



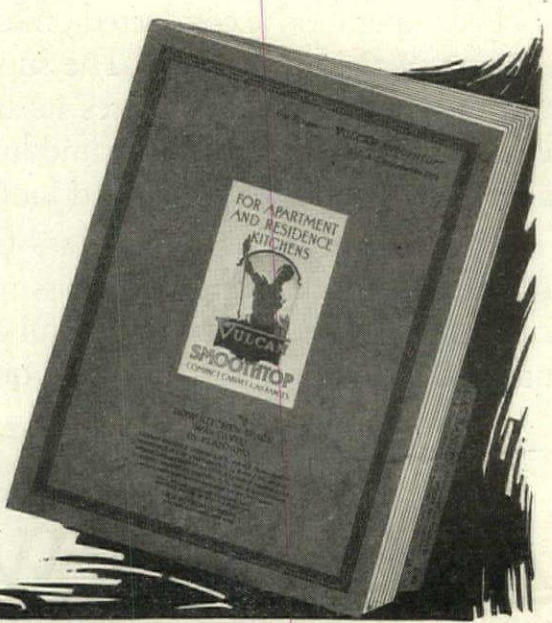
The kitchen is uppermost in her mind

Mrs. Home Seeker will endorse your judgment in kitchens, when you explain all the added advantages of the SMOOTHTOP Gas Range. Every woman is looking for the best home she can find and make.

The selling power of talking about the range, in the kitchen, while the housewife and her husband are standing in front of it, can be readily grasped. Most every woman has read about the SMOOTH-TOP Range in advertisement; or they have heard about it from friends who are using it.

We have prepared a kitchen plan folder especially for architects and builders, containing plans, facts and specifications. It explains well known operations by noted architects. Gives reduced scale drawings ready for immediate tracing. Affords eight complete plan and specification data sheets. Helps you find the best location for range and makes possible maximum economy in space with maximum convenience for housewives and cooks.

You can get this valuable book with all this useful information free, by writing for it on your letterhead.



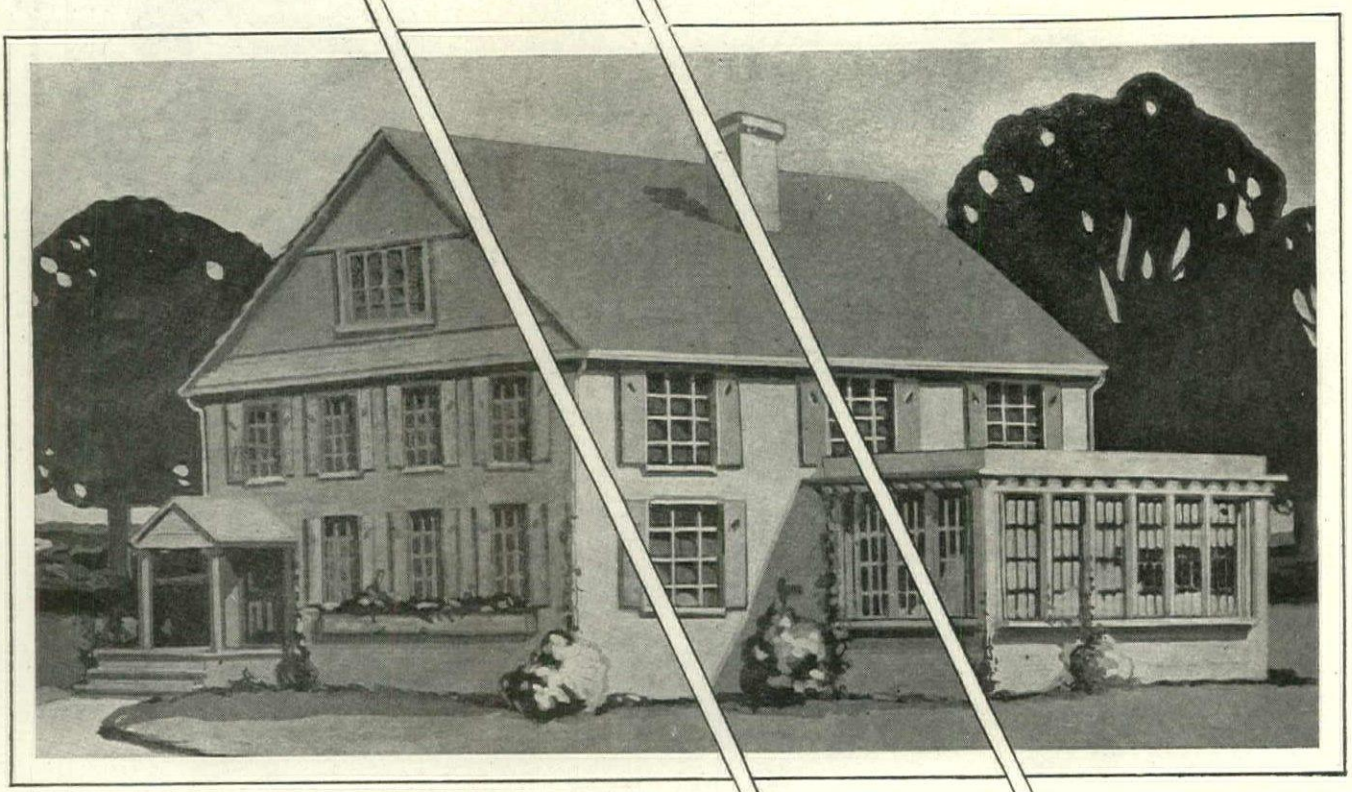
Standard Gas Equipment Corporation

VULCAN DIVISION, Successor to

WM. M. CRANE COMPANY

18-20 EAST 41st STREET NEW YORK, N. Y.

"the Best glass" is scientifically produced



THROUGH the scientific handling of materials, improved working machinery, and standardization, "the Best glass" has maintained its leadership in the building field for over a quarter century.

"The Best glass" is the choice of leading architects and discriminating builders everywhere.

Each operation is conducted on scientific principles, under a system of rigid inspection. The superior chemical composition of "the Best glass" assures its even cutting, its greater tensile strength, and its higher modulus of rupture. It is less liable to chemical reactions, and fading.

The American Window Glass Company were the first to make use of machinery for glass making on a commercial scale, and are the holders of the fundamental patents which make possible the consistently high quality of "the Best glass."

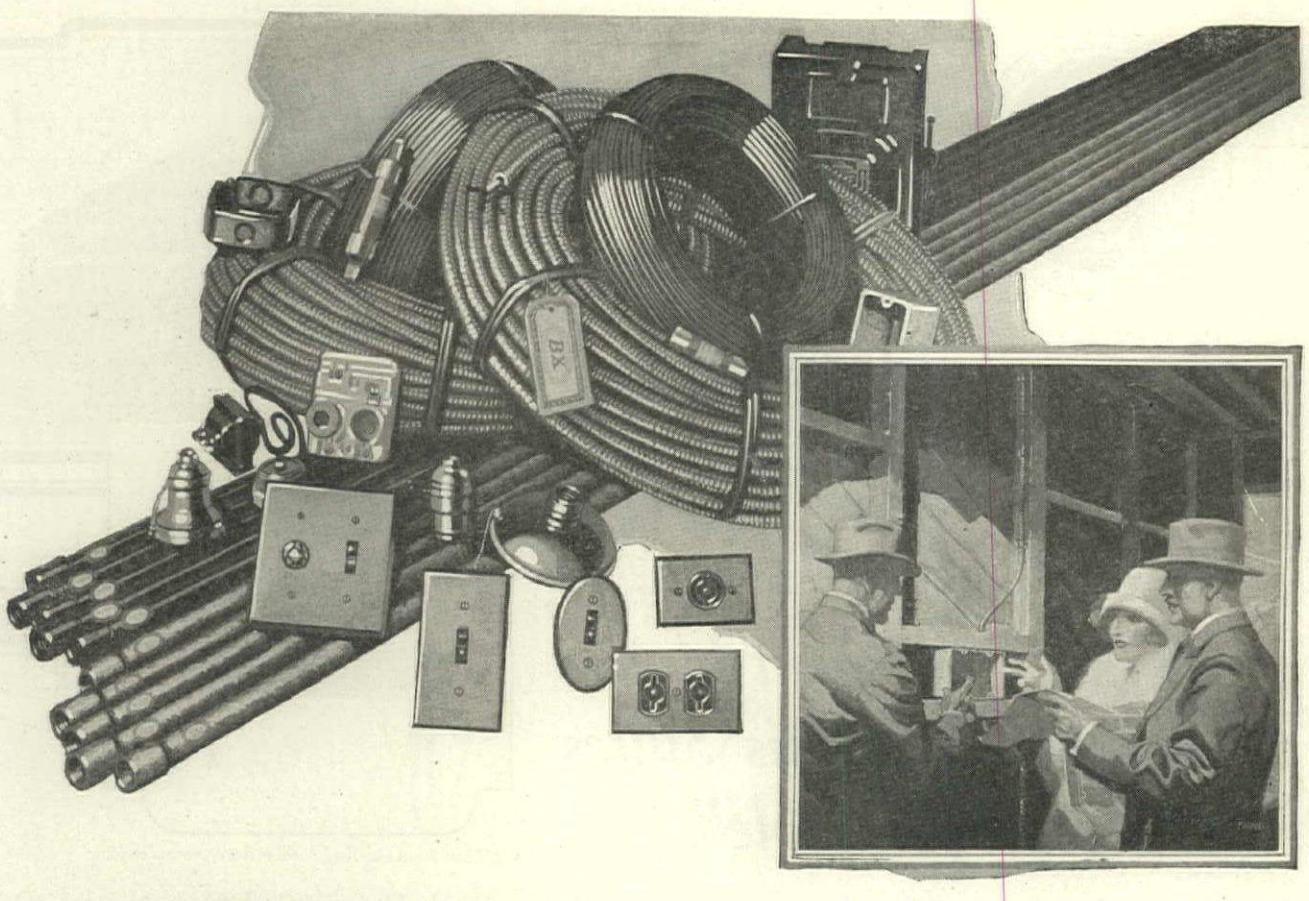
Ask for "the Best glass" by name, and see that you get the genuine

AMERICAN WINDOW GLASS CO. "the Best Glass" PITTSBURGH, PA.

"Let in the Sunlight"

AMERICAN WINDOW GLASS CO.

GENERAL OFFICES: PITTSBURGH, PA. BRANCHES IN PRINCIPAL CITIES



A few cents *saves* dollars

G-E Wiring System throughout any building adds less than one-tenth of one per cent to the cost of the building. It adds the quality assurance carried by the name General Electric, and offers to every customer quality that he knows.

Whether you are building a home for a client or one for sale, you will have an accepted quality point if you can say "The wiring installation is G-E throughout!"

Have you received our helpful booklet on complete wiring, "The Home of a Hundred Comforts?" Send for a copy.

Address Section BA-2
Merchandise Department
General Electric Company
Bridgeport, Conn.

A two-color campaign in the Saturday Evening Post is making the public appreciate the ultimate economy of a G-E wiring system.

GE WIRING SYSTEM
—for lifetime service

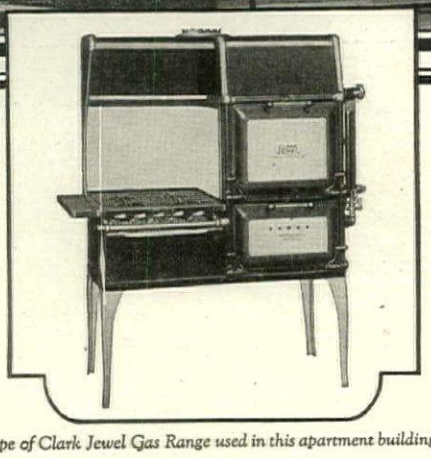
GENERAL ELECTRIC



One easy turn of the Lorain Red Wheel gives the housewife a choice of 44 measured and controlled oven heats for any kind of oven cooking or baking.



Apartment Building at 6700-12 Clyde Avenue, Chicago, Ill. Thomas R. Bishop, Architect, Chicago. Olaf Larson, Owner, Chicago. Kitchens throughout are equipped with Clark Jewel Gas Ranges with Lorain Oven Heat Regulators.



Type of Clark Jewel Gas Range used in this apartment building



Help the Apartment House Owner to Make His Suites More "Rentable"

TODAY the keen-sighted apartment house builder tries to make his suites so attractive to prospective tenants that they rent "on sight". One item of equipment that goes a long way toward helping to achieve this ideal is a gas range equipped with the Lorain Oven Heat Regulator.

Almost every woman seeking a place to live has her heart set on labor-saving equipment in the kitchen. If she finds a Lorain-equipped Gas Range there, the entire suite takes on an added interest. From her reading of advertisements she recognizes it as the remarkable labor-saving stove with the Lorain Oven Heat Regulator, the famous device that enables the housewife to "set" the heat of the oven at any cooking temperature—and it automatically maintains that temperature *exactly* until the gas is shut off.

Lorain also enables the housewife to Bake, Boil, Roast and Can in the Oven by the modern "Time and Temperature Method" which assures perfect results every time.

Lorain is approved by all leading test kitchens including: Good Housekeeping Institute, Priscilla Proving Plant, Forecast Experimental Laboratory, and New York Tribune Institute. It is used in more than 1200 of the leading schools and universities to teach thousands of women the science of cookery.

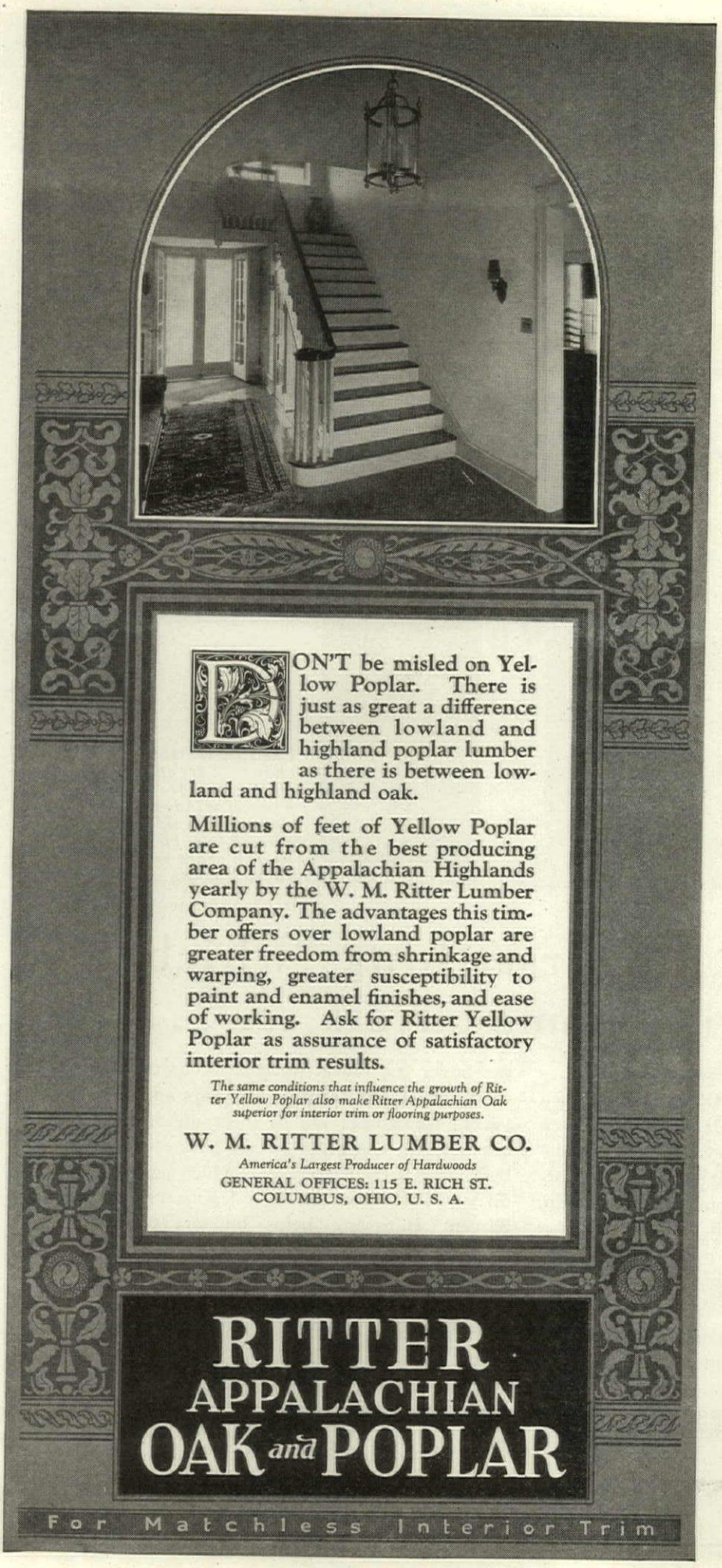
These are some of the reasons why home-seeking people are glad to rent suites that have Lorain-equipped Gas Ranges —they are also some of the reasons why architects should specify them whenever possible. For specific data as to sizes, styles, finishes, etc., see 19th Edition, Sweet's Architectural Catalog, pages 2497-2506 inclusive. Our Catalogs, prices and other information on request.

These famous gas stoves are equipped with the Lorain Oven Heat Regulator:
Clark Jewel, Dangler, Direct Action, New Process, Quick Meal and Reliable.

AMERICAN STOVE COMPANY, 222 Chouteau Avenue, St. Louis, Mo.

Largest Makers of Gas Ranges in the World

LORAIN OVEN HEAT REGULATOR



DON'T be misled on Yellow Poplar. There is just as great a difference between lowland and highland poplar lumber as there is between lowland and highland oak.

Millions of feet of Yellow Poplar are cut from the best producing area of the Appalachian Highlands yearly by the W. M. Ritter Lumber Company. The advantages this timber offers over lowland poplar are greater freedom from shrinkage and warping, greater susceptibility to paint and enamel finishes, and ease of working. Ask for Ritter Yellow Poplar as assurance of satisfactory interior trim results.

The same conditions that influence the growth of Ritter Yellow Poplar also make Ritter Appalachian Oak superior for interior trim or flooring purposes.

W. M. RITTER LUMBER CO.
America's Largest Producer of Hardwoods
GENERAL OFFICES: 115 E. RICH ST.
COLUMBUS, OHIO, U. S. A.

RITTER
APPALACHIAN
OAK and POPLAR
For Matchless Interior Trim

There is Both Good Poplar and Bad

Some facts not generally known regarding the differences in Yellow Poplar Lumber for Interior Trim Purposes.

By the Research Department of the W. M. Ritter Lumber Company.

Just yesterday, as we sat at lunch in a new and otherwise very attractive hotel dining room, we had occasion to notice the interior trim and panelling. The wood was poplar and finished in white enamel. Close examination showed an uneven surface which had begun to chip or "string" off probably due to excessive shrinkage in drying, while reflected light throughout, disclosed to even the untrained eye unusual warpage of the panels.

What a shame, we thought, that the builder or architect responsible did not know the differences in popular lumber cut in different territories—or at least had not selected his material with the care it deserved.

Little is known by the average layman, and even some trim manufacturers of the differences between various stands of poplar. Furthermore, there is a tendency on the part of some lumber manufacturers to minimize this difference. Yet, the variation between texture, grain, color and working qualities here is just as pronounced as the difference between lowland and highland oak and due to the same reasons—locality of growth.

Climatic and soil conditions materially influence the growth of poplar just as they do oak or any other wood. Poplar grown in lowland or poorly-drained areas consists very largely of fibers with thick, hard walls, giving it greater density, hardness and weight than slow-growing, highland Yellow Poplar.

The highlands, particularly the Appalachian Region, provide conditions very favorable to the growth of poplar. Consequently, highland poplar has a comparatively mild, even texture, close, fine grain and uniform color, thus making it more receptive to paint and enamel finishes, less susceptible to shrinkage in drying and subjecting it to a less amount of warping and twisting. It permits working to a greater degree of accuracy, because of its desirable texture, and cracks and splits less, not only while being handled but during the use of the completed product as well.

These qualities make highland Yellow Poplar most desirable for interior trim, panelling, door panels, fixture parts, and other wide surfaces. The use of the right kind of poplar may often mean the saving of a well conceived interior to a deserved place of fineness and beauty where otherwise it may find its place among the mediocre or even inferior.

Accept Only the Best

There is plenty of poplar. In 1922, approximately 300,000,000 feet were manufactured. Therefore, there is no reason for accepting inferior material. Accept only that which is known to come from the highlands and which possesses the qualities essential to satisfactory results. Find out who in your locality handles Ritter Yellow Poplar and ask for it as assurance of the best. Write for details.

W. M. RITTER LUMBER COMPANY
115 E. Rich Street, Columbus, Ohio.

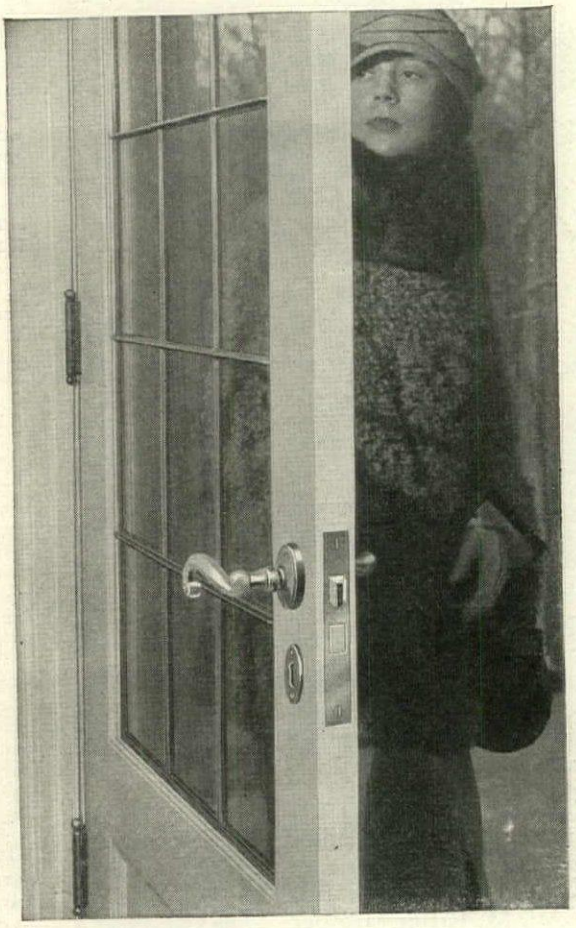
Gentlemen: Kindly send me further details on Ritter Appalachian Yellow Poplar, Oak and Flooring.

Name_____

Address_____

City_____

SARGENT
Locks & Hardware



The illustration shows Sargent Hardware for a French window opening on a side porch or for French doors between rooms.

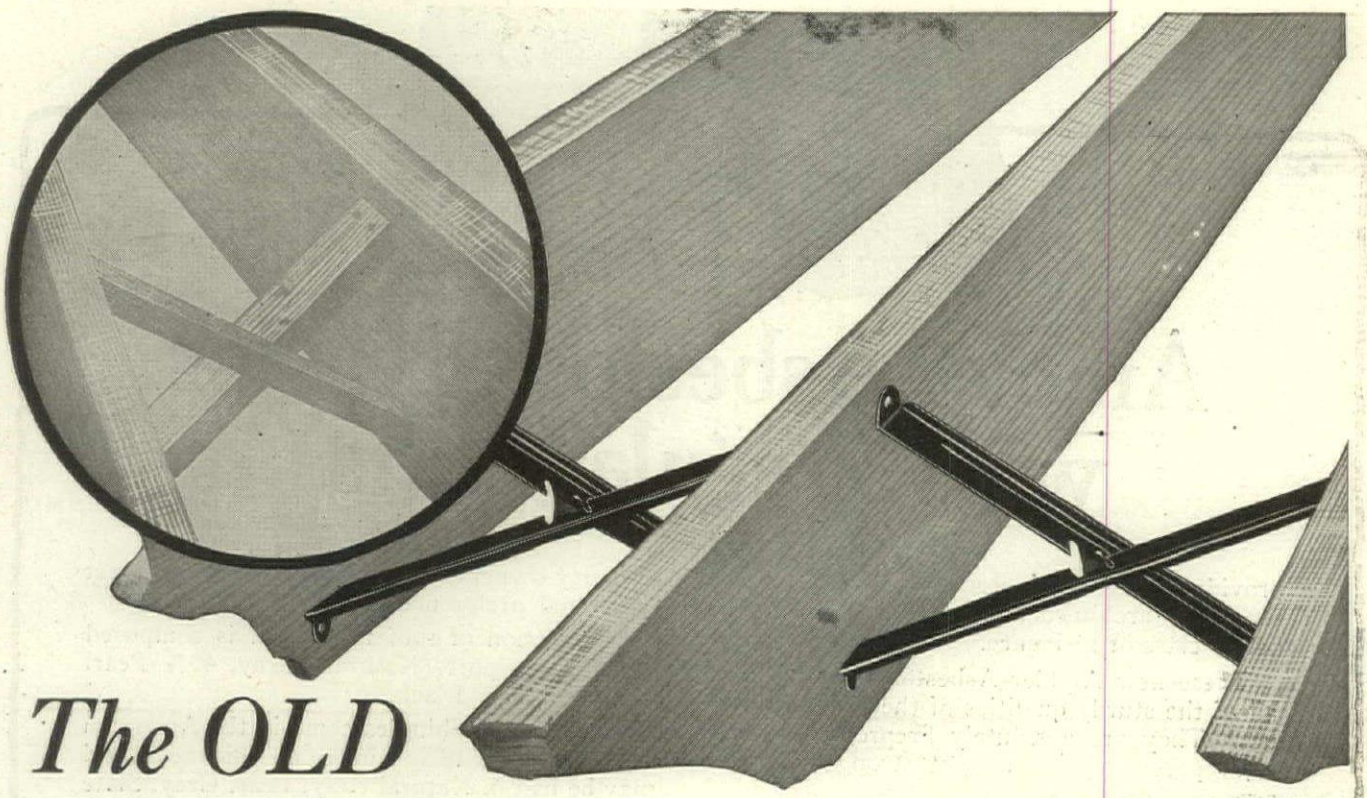
One of the first things which prospective home-buyers see . . .

is the hardware on entrance doors. They not only see it, but they take hold of it and try it. They note whether or not it is sturdy, harmonious, secure. Similar consideration is given to the hardware on doors inside the building—to window catches too. And it is generally true that people judge a building largely by the impressions they get from details such as these.

Sargent Locks and Hardware of solid brass or bronze do more than help you to convince prospects that choicest materials were used throughout. They give the buyer the fullest measure of hardware service and security for years and years. Immediate sale is most important. Hardly less important is a business-building return of good-will, which can only result from satisfied buyers. Sargent Hardware helps builders to realize both objectives.

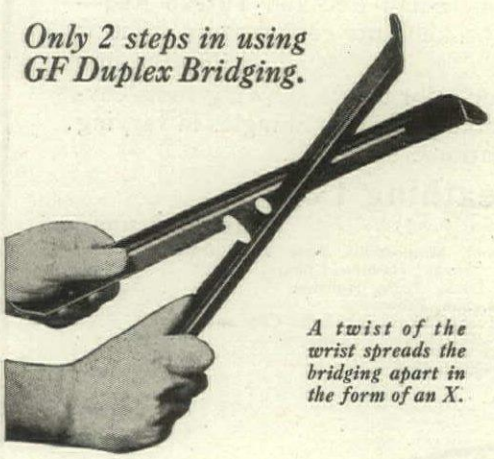
The difference between the price of Sargent Locks and Hardware and inferior grades is a very small percentage of the total building cost. There are styles for every architectural design and every building need.

SARGENT & COMPANY, *Hardware Manufacturers*
52 Water Street
New Haven, Conn.



The OLD —and the NEW!

Only 2 steps in using GF Duplex Bridging.



A twist of the wrist spreads the bridging apart in the form of an X.



Four nails, driven through nail holes, and the job's done.

An old time and money-wasting job now made surprisingly simple.

For generations, carpenters have been cutting, fitting and nailing wooden cross bridging.

Now, with GF Duplex Steel Bridging, the job can be done in one-eighth the time, or less, and with half the number of nails, making the old cumbersome, puttering way both obsolete and expensive.

GF Duplex Bridging is made in *one piece* of heavy steel, flanged and ribbed to give extra strength, and painted. It always remains tight, since steel cannot shrink or split as does wood. It makes a neater job, and gives added space between joists for pipes, etc. And it comes flat in bundles of 25, ready for use—easy to handle —easy to install.

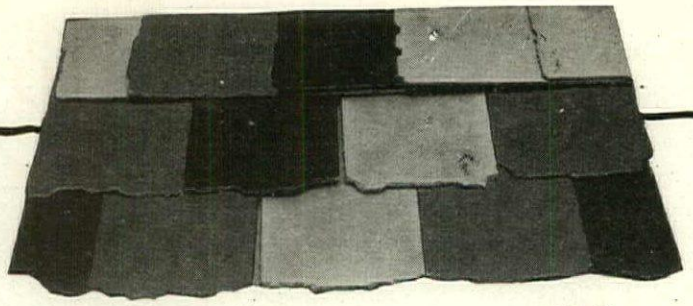
This product tells its own story. Write for a sample, gratis, and an illustrated descriptive leaflet, prices, etc.

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GF Duplex STEEL BRIDGING



Ambler Asbestos Shingles with irregular butts

provide, along with permanence, the texture that many architects and builders prefer for the better class of residence.

These new Ambler Asbestos Shingles have all of the sturdy qualities of the Ambler product. They are absolutely fireproof, are free from porous spots and get stronger as they age.

Combining varying colors of these shingles in specified proportions develops a roof subdued in tone and blended to harmonize with the other exterior colorings of the house and surroundings. This added artistic feature meets a constantly growing demand among property-owners for roofs designed to meet individual preference.

The section of roof illustrated is composed of 30% Newport (Natural) Gray, 40% Pearl Gray and 30% Black.

Mixed-Color Shingles come in the American style, 9 in. by 18 in., in ¼ in. thickness, and may be had in Natural Gray, Pearl Gray, Slate Black, Brown, Indian Red and Tuscan Red—all with the broken-butt edge feature when it is desired.

Write us for color charts showing roofs covered with Ambler Asbestos Shingles in varying color combinations.

Asbestos Shingle, Slate and Sheathing Co.

Department C **Ambler, Penna.**

Branch Offices:—Baltimore, Boston, Buffalo, Chicago, Cincinnati, Detroit, Cleveland, Minneapolis, New York, Omaha, Philadelphia, Pittsburgh, Washington, Wilkes-Barre; Toronto, Canada; Havana, Cuba.

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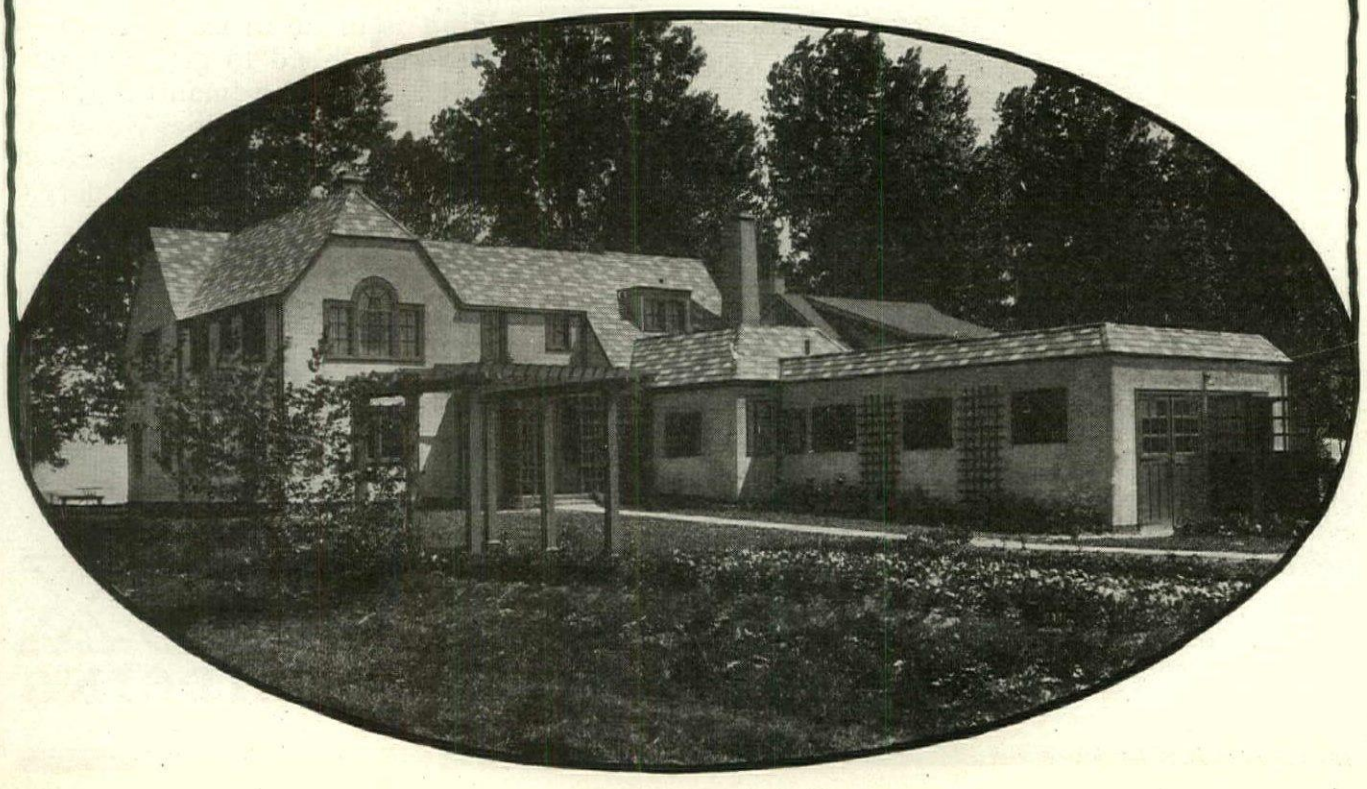
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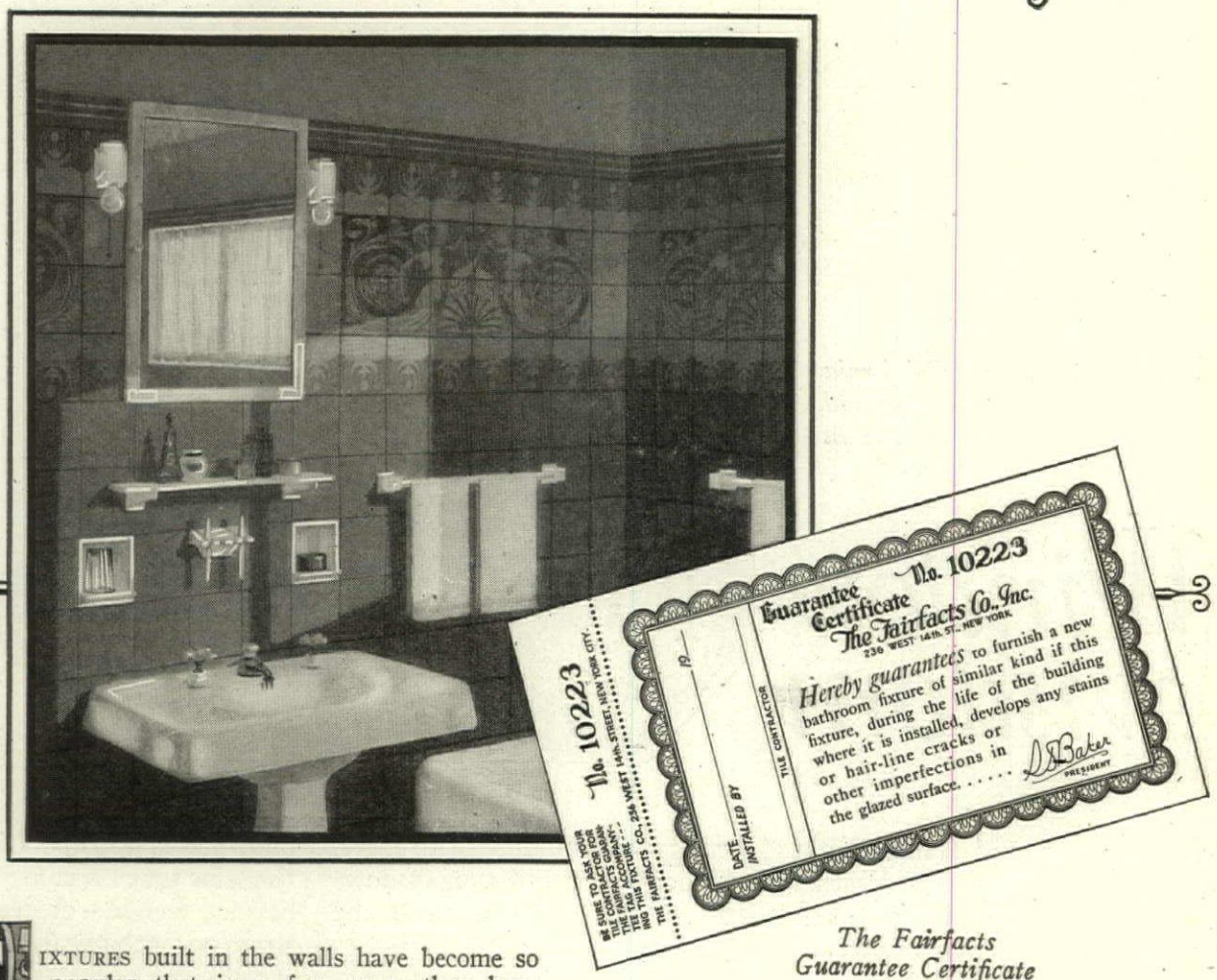
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The finishing touch to Bathroom Beauty



The Fairfacts Guarantee Certificate

FIXTURES built in the walls have become so popular that in a few years they have almost completely replaced portable or attached fixtures in all new work.

Fairfacts Fixtures have been widely imitated and many of these imitations are of extremely poor quality. The Fairfacts Certificate pasted on Fairfacts Fixtures is a definite guarantee from a responsible manufacturer that the Fixture will retain its original snow-white beauty and remain free from cracks as long as the building stands.

It is a costly and difficult process to replace fixtures that become defective. That is why the Fairfacts Guarantee is especially important both to architects and to their clients in assuring a bathroom of lasting beauty.

The design of Fairfacts Fixtures has a simple motif which makes them harmonize with each other. Their snow-white color also makes a perfect blend with any color scheme or tint of walls.

Fairfacts Fixtures may be installed in walls of Tile, Plaster or Keene Cement. They are carried in stock by tile contractors who also install them.

Our new Catalogue F is now ready. Write us for your copy.

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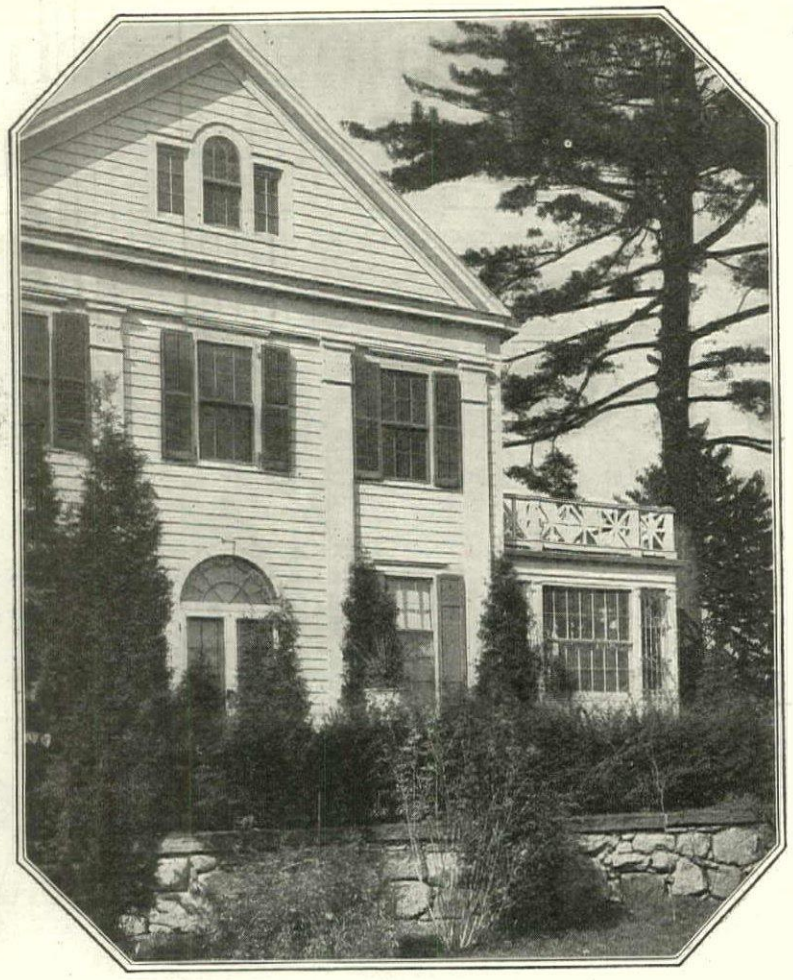
SPECIAL BATHROOM Fairfacts FIXTURES PROCESS

Fairfacts Fixtures

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Please send me your new catalogue for my files.

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"Millions of California Pine window sash and frames are in use in American homes."

Window wisdom

Window sash and frames must withstand the extremes of weather wear, plus handling and friction—a most exacting demand upon the wood of which they are made. Accurate workmanship is paramount; and it is essential that this accuracy be preserved during the life of the sash and frame.

Millwork accuracy depends primarily upon the texture of the wood used. Soft-textured California Pines are *naturally* qualified for precision millwork. They cut easily, either with or across the grain, without splitting. They surface smoothly on four sides. Their uniformly even grain allows the cutting tool to produce sharp edges, which cast the contrasting shadows that accentuate the design of the building.

California Pine sash and frames preserve the structural form and design of the window unit, because these pines have the minimum tendency to expand and contract. They withstand the severe strains of opposing elements, as, for example, zero temperature outside the home, and 70 degrees inside; or, when the outside window woodwork is rain-beaten, while the inside is dry.

The very light weight of these pines makes sash operation easy, at the same time lessening the cost of balance weights, or, reducing the strain on mechanical sash balances.

Sash and frames are painted inside and out. Paint protection adds to the natural wearing qualities of wood. California Pine window parts paint perfectly, their smooth surfaces readily take the paint and hold the protective coating tenaciously. The light, natural color of these pines permits any exterior color treatment, and the finest interior window finish—with assurance of lasting, unblemished beauty.



Send for this free illustrated booklet

Sash and frame manufacturers find the qualities of California Pines parallel those of the Eastern white pines, the supply of which has been largely depleted by past demand. Many of these manufacturers now use California Pines, the supply of which is ample to meet the demands of the next two centuries.

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The MURPHY IN-A-DOR BED

will add the convenience of an extra bedroom to each of

A Thousand New Homes in an Exclusive Community

IN the heart of the St. Louis country club district, two hundred acres of woodland are being developed into a community of a thousand homes. Each of these will be equipped with at least one Murphy In-A-Dor Bed.

The Majestic Homes Corporation, builders of these houses, have selected Murphy Beds for the purpose of making sleeping porches out of sun rooms and bed rooms out of libraries—of giving to each home the marked advantage of an extra bed chamber that costs nothing to build, decorate, heat, light or care for.

The action of the Majestic Corporation (one of the largest home builders in this country) in making this wholesale selection of Murphy Beds is significant.

It definitely stamps the Murphy as a bed whose worth and dependability is unquestioned. It gives weight and prestige to the opinion of hundreds of other architects and builders who have, for some time included the Murphy in their plans for the finest types of residences.

It is the judgment of the Majestic architectural and engineering staff that when the question of the extra bedroom space, as applied to residences, has been given proper consideration, few new homes will be built without including the Murphy.

Living room, sun parlor, play room or porch—whatever room is selected for a Murphy Bed at once becomes a room of two-fold usefulness. By day it is a place to lounge or entertain—at night with the bed in position this same room has all the comforts of a bed chamber.

The Murphy Bed is the only full-sized bed that will swing through a standard 3 x 7 door. It does away with the need for using odd shaped or double doors which, when closed, obviously are hiding something. The Murphy is perfectly concealed by an ordinary door.

With the Murphy, the door is absolutely free from attachments of the bed. All the weight is thrown upon the floor, the upper attachment serving as a guide arm only. This makes the Murphy easy to install. Simply drive four screws into the floor plate and four into the door jamb plate.

The Murphy is balanced by spring tension springs, all weights being eliminated. It is built to prevent self-closing yet so balanced as to make it easily operated in any position. It guides itself through the door opening. No steering is necessary.

The Murphy is made in four standard widths with any design, color and finish (wood or metal) to match any scheme of decoration. It is equipped with Slumber King, demountable coil or box springs as desired.

THE MURPHY DOOR BED COMPANY

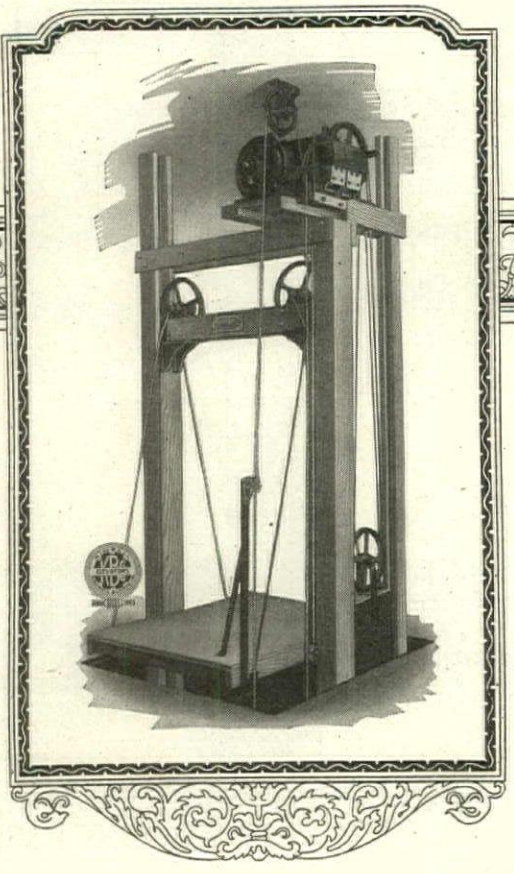
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Light Electric Elevators

ONE of the leaders in the Kimball Elevator Line is the Light Electric. This machine, made in several sizes, is practical, efficient, and economical, both in original cost and operation. The Light Electric has a raising capacity of from 1,000 to 2,000 pounds and a speed of from 25 to 50 feet a minute.

Installation on this machine is simple, as all parts are furnished, sawed, drilled, fitted and built especially to fit your own building.

Other leaders in the Kimball Line are: Straight Line Drive Elevator Machines, Passenger and Freight Elevators (having special push button or regular operator controls) and light and heavy dumbwaiters.

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The best known small home near Chicago has a roof of Winthrop Tapers

Probably no small home ever was in the public eye more than this Chicago Daily News Model Home built in the suburb, River Forest, to demonstrate right construction and good materials to home builders. Every item, every move in its construction was under the scrutiny of thousands, whose interest was aroused by the publicity given it, through the columns of the News.

For this Model Home the supervising architect selected, without any solicitation, the distinctive, durable and beautiful Winthrops.



Winthrop Tapered Asphalt Shingles

The strongest quality feature ever put into any slate-surfaced asphalt shingle is the exclusive, distinctive taper found only in the Winthrop.

Snuggled close to the roof they offer the greatest thickness where exposed to weather and possible firebrands.

These thick butts, due to extra coats of asphalt on both sides of the heavy felt core, cast the attractive shadow lines that made the old wooden shingles popular.

Deeply imbedded crushed slate gives the outside surface beautiful and lasting colors—tile-red, sea-green, blue-black and golden-buff.

These shingles are made in two styles—individual form and the popular 3-in-1 strip. When laid over old shingle roofs, Winthrops have no equal for re-roofing.

We want you to have a *free* sample of this beautiful shingle, to feel and see its goodness and beauty for yourself.

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MODERN WALL COVERING

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A real estate operator in one of our large eastern cities is erecting over two hundred Budget Homes. On the advice of his wife, all of the plastered walls are being decorated with Sanitas Modern Wall Covering. He himself says:

"I am sold thoroughly on Sanitas as the most serviceable and modern wall covering. The Sanitas which I have used in my own home has been subject to the abuse of four youngsters, and there has been no mark or stain on it that has not been easily removed.

"In the short time that I have been using Sanitas in the Budget Homes, I am convinced that it has been the cause of my effecting quite a number of sales which I otherwise would have lost."

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Plain and Pastel Flat Finish

tints that can be hung as they come, or stenciled, frescoed, or Tiffany blended.

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conventional and foliage patterns, neutral toned designs of vague formations, stripes, mottled effects, and reproductions of tapestry, grass-cloth, leather and various fabrics.

Brocade and Metallic Finishes

in embossed effects for paneled treatments and trimmings.

Enamel Finish

plain colors, tile effects and decorative patterns, for kitchens, bathrooms, laundries, etc.

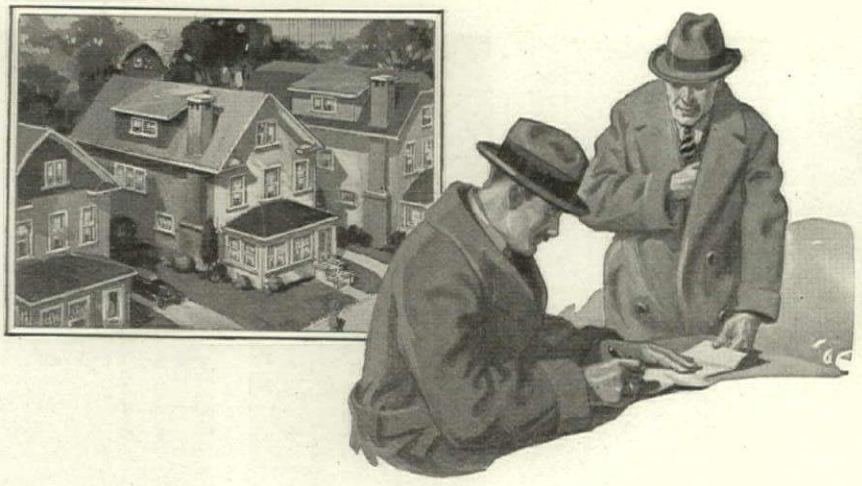
Sanitas covered walls are stronger, more permanent, easily wiped clean with a damp cloth, and do not crack, tear, peel, blister, or fade. Sanitas is made on cloth, ready-painted with durable oil colors. It comes in styles for every room in the house, and can be hung on any flat surface; new walls as soon as the plaster is dry, old walls when the cracks have been filled, plaster-boards any time, anywhere.

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ASK any prominent realtor or builder who has had experience with all types of heating. He will tell you that *radiator warmth* from IDEAL Boilers and American Radiators is a real salesman.

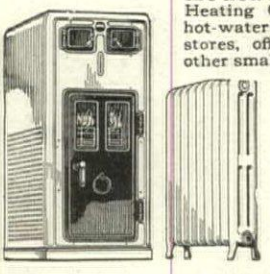
"Last year," writes one, "we built a row of houses all alike, except that four had pipeless furnaces and two had ARCOLA hot-water systems.

"The ARCOLA houses cost us $300 each more than the others—otherwise they were exactly alike. We priced the ARCOLA houses $550 higher. Both of them were sold before a single one of the others."

Why not try this experiment yourself? Let IDEAL warmth go to work for *you.* Remember that IDEAL Boilers and American Radiators are real salesmen for the buildings you sell or rent.

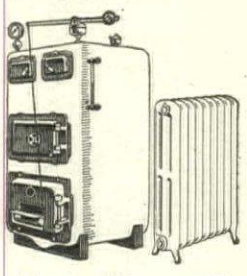
For small homes without basements

the new IDEAL ARCOLA Heating Outfit. It furnishes hot-water radiator warmth for stores, offices, garages, and other small buildings as well.



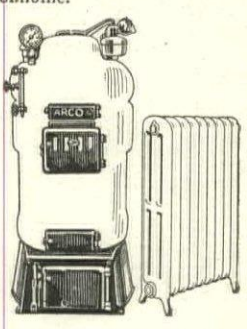
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the new IDEAL Assembled Sectional Boiler. Very low priced to meet the demand for radiator warmth in this type of home.



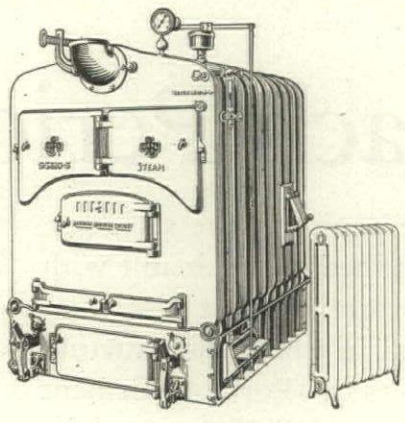
For medium-sized homes

the new IDEAL ARCO Round Boiler. For a generation, the standard in its field, and now greatly improved though lower in price.



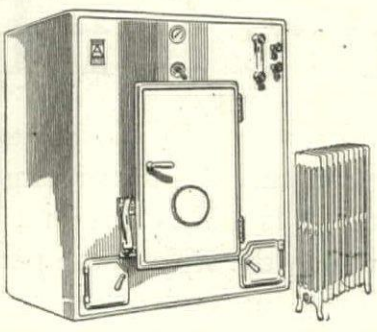
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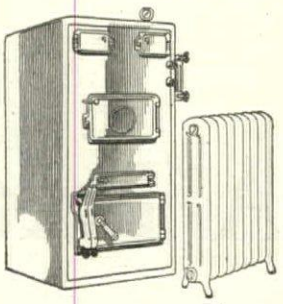
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the new IDEAL TYPE A Heat Machine. Also for offices, schools, churches, and other buildings. Already famous for its beauty and economy of fuel, it has been made even more efficient and economical.



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the IDEAL ARCO Sectional Boiler. Another new member of the IDEAL family, moderately priced, efficient and economical.



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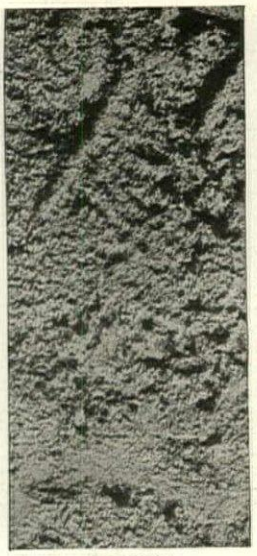
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ITALIAN



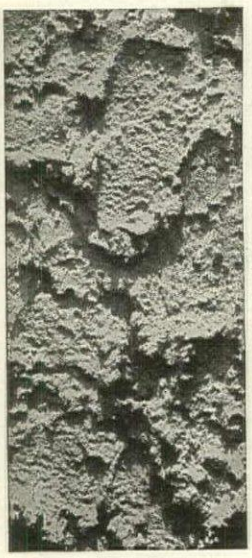
COLONIAL



GOTHIC



ITALIAN COTTAGE



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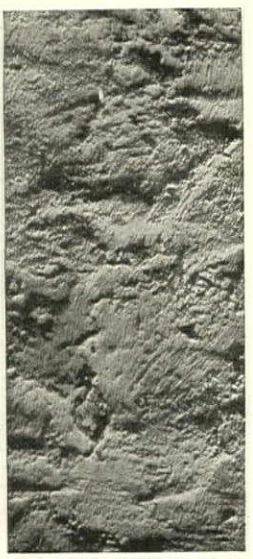
MODERN AMERICAN



ENGLISH



FRENCH



CALIFORNIA

The Portland Cement Stucco textures here shown are taken from photographs of actual stucco jobs. Any competent workman in the plastering trade can reproduce these beautiful, permanent and economical finishes.

A Texture for Each Period

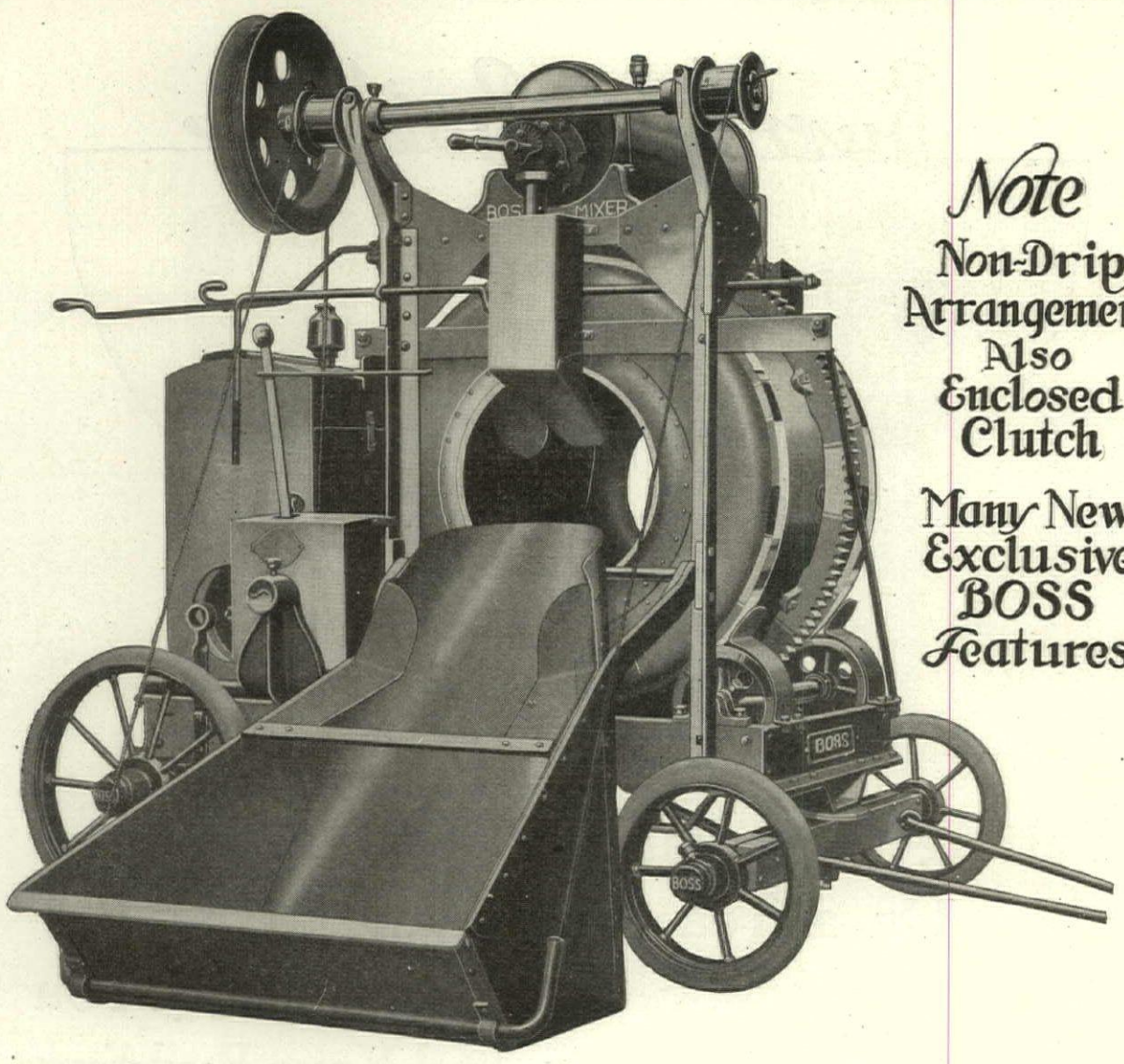
Controlled and directed by the creative genius of the architect, Portland Cement Stucco assures a range of beauty obtainable with no other material. It makes certain a texture and tint that complete harmoniously the style of the period in which the structure is designed. Have you received your copies of "Portland Cement Stucco Textures" and "Portland Cement Stucco"? If not, send for them today. Address the nearest office listed below.

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A BIG ONE-BAGGER That's BUILT of STEEL

Of Course It's Much Stronger, Yet Also Lighter

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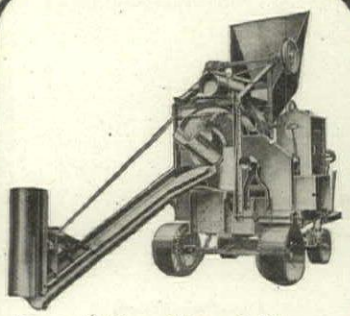
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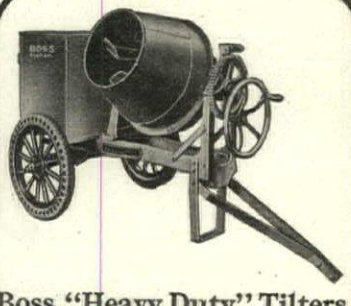
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A Fast, Sturdy, One-Man Paving or Building Mixer

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BOSS HOISTS $135 UP ALL SIZES

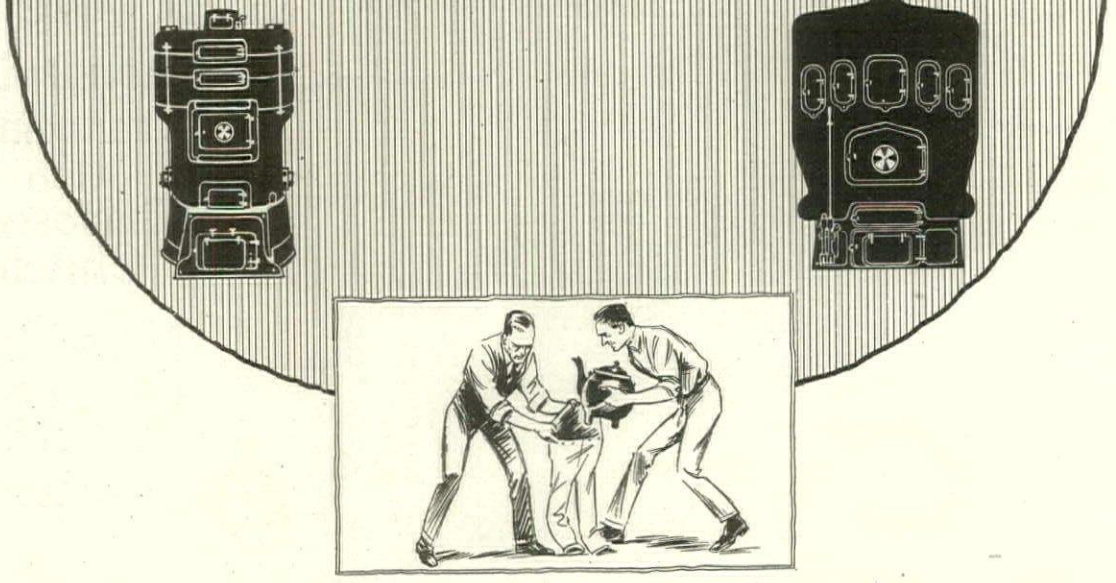


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Burnham Boilers



Putting Long Pants On a Tea Kettle, and What It Has To Do With You And Your Building

SOUNDS like dumb foolishness.
But it isn't.

It's just plain, everyday horse sense, hitched up to your heating problems.

Hitched up so the folks you are building for, will stay hitched.

Might go into particulars, but what's the use?

Send for the booklet itself, and see for yourself.

Its name is "Letters To and Fro."

We'll gladly send you all you want, after you have sent for this first one.

Burnham Boiler Corporation

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Cyclone
Delivers the Goods

In less than one year Cyclone Shingles have won leadership as the fastest selling asphalt shingle made. Many of the largest builders use them to the exclusion of all other composition roofing. Cyclone proved to them that it was as near perfection as roofing can be made.

Our business on Cyclone Shingles has grown beyond our fondest hopes. Orders pour in for 2, 3, 5, 10 and 25 carload lots. The reason is because *Cyclone delivers the goods.*

In 1925 Cyclone will be the biggest factor in the roofing business. Cyclone double-locked butt; long head-lap; wide side-lap; and features of economy, durability and beauty all combine in the success of Cyclone.

Mail the Coupon

Cyclone will deliver the goods for you. So mail the coupon NOW and get the facts about Cyclone which make it the most advanced step ever made in roofing development.

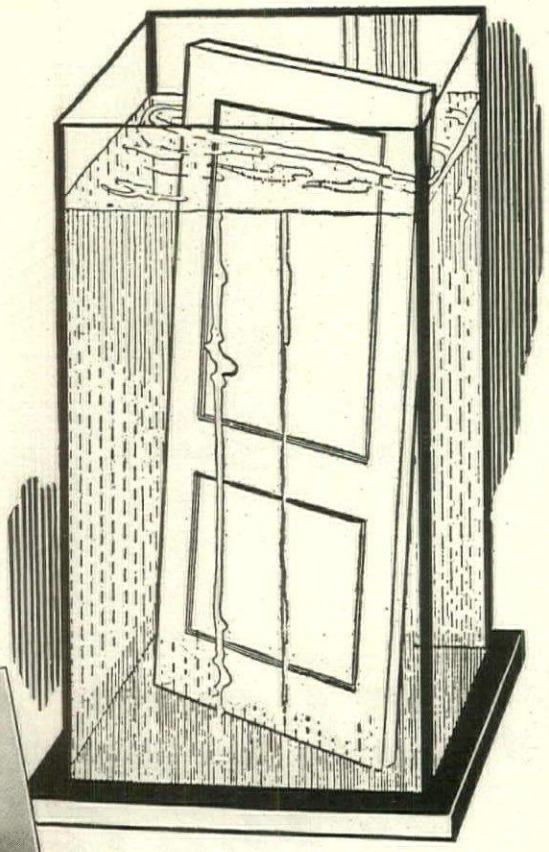
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535-539 S. Franklin St., Chicago, Illinois

FORD ROOFING PRODUCTS CO., CHICAGO (302)
Please send me details of the ***Cyclone*** Shingle
and full particulars. **FREE** and absolutely without obligation.

Name _____

Address _____

Business _____



Since originated a year ago by the Forest Products Laboratory, University of Washington, this famous Laminex water test has been successfully repeated by Dayton Sash and Door Company, Dayton; McPhee and McGinnity, Denver; Hortman Company, New Orleans; Tacoma "Own Your Home" Exposition, Tacoma; Cole Manufacturing Company, Memphis; McCauley, Brooklyn; California Industrial Exposition, San Francisco; South Texas Fair, Beaumont; and other leading door distributors and building material expositions. Under this vigorous test no Laminex door has ever warped or come apart!

1 *Mr. Ray testing Laminex door.*
Mr. Ray is a door dealer and doubted that any door could withstand continued exposure to moisture.

2 *Interior of warehouse in Cumberland flood.*

3 *Laminex doors in warehouse fire.*



1



2



3

If Laminex withstands *these* tests—

Won't it withstand every abuse a door can meet?

A "Doubting Thomas" heard of the success of our famous Laminex water test—but he was from Missouri! So he took a stock Laminex door and exposed it to water from a hose and to the heat of the sun *for twenty days*. The Laminex door came out without shrinking, swelling or warping. No open joints resulted. The waterproof cement held. The surface did not peel or crack.

In the great Cumberland flood, March 29, 1924, Laminex doors in a warehouse were under water for several days. Doors of other makes were corrugated. Laminex doors came out unaffected.

In a great southern warehouse fire, heat and water wrecked their vengeance on doors of many makes. Laminex alone came out in perfect condition—ready to be hung.

These tests have doubly proved there *is* a door that will not shrink, swell or warp—that will never cause you trouble.

The beauty of old growth Douglas fir is combined in Laminex with a resistance to expansion and contraction, due to our building up of layers and compressing under great pressure with a wonderful waterproof cement. At leading building material dealers. Send for interesting monograph on Laminex doors and sample of Laminex wood so you can make the famous water test yourself.

THE WHEELER, OSGOOD COMPANY, Tacoma, Wash.

Sales Offices: New York, Memphis, Los Angeles, San Francisco, Spokane, London, England

A WOCO PRODUCT

Manufacturers of Laminex Doors, "Woco" Douglas Fir Doors and Fir Sash

LAMINEX DOORS

WILL NOT SHRINK, SWELL OR WARP



NOW IS SCREEN PROFIT TIME FOR YOU

NOW is the best time to make Porch Screens. Screened Porches are money makers for you. And when you screen, recommend PEARL Wire Cloth, which lasts longer, does not bag or sag, requires no painting and insures against repairs. It is:

DURABLE

Due to the no-chip, non-peel metallic coating, which is a secret process, exclusive with Gilbert & Bennett, PEARL Wire Cloth is an exceptional rust resister. And you know that RUST, not WEAR, ruins screens.

ECONOMICAL

Because of its long life and because it requires no paint and no repairs, PEARL is, and has been for years, the most satisfactory cloth made.

SANITARY

Due to the smooth coating and even mesh PEARL offers no lodging place for dust or dirt. It is a clean screen that stays clean with little care.

HANDSOME

Because of its smooth, well finished coating and even mesh PEARL is the best LOOKING as well as the best wearing screen.

EASY ON EYES

After short exposure PEARL turns an "invisible gray" shade which offers no obstruction to the vision.

Keep Busy During the Winter Months

To assist you in pointing out to your prospect the simplicity of construction and installation of screened porches, we have prepared a Blue Print of a Porch Plan which we will send free.

Two copper wires woven in the selvage and our round red tag identify as genuine every roll of "PEARL" Wire Cloth.

We have a dealer in your town. See him or write us if you are interested in permanently screening doors, windows or porches. Samples and literature FREE.

Address Dept. "B"

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New York · Georgetown, Conn. · Chicago · Kansas City

PEARL is made in REGULAR GRADE (12 x 13 mesh) and 14, 16, 18, 20, 24 and 30 Mesh also EXTRA HEAVY GRADE (14 Mesh only)

The best hardware dealer in your city sells "PEARL"

Clip and Mail This Coupon

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Gentlemen:

Please send me complete information on PEARL and PLAN for screening porches.



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Built-in Accuracy for Builders



The factory built-in accuracy of Sand's Levels is permanent, therefore dependable. Workmen who value their reputations won't trust themselves to adjust a level—they leave that to factory experts. The accuracy of every Sand's Level is sealed in and double sealed. You can bank on it now—you can bank on it ten years from now.

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Just peek in the tool kits of the master craftsmen on any job—you'll find a Sand's Level most every time. Because these men know good tools, and because they won't gamble with their own reputations by using anything else.

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At Good Hardware Stores Everywhere

Wood and Aluminum Levels for Every Purpose

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For Contractors and Home Builders

For everyone interested in home building, we have published two booklets showing the attractive, convenient clothes closets made possible by installing Knape & Vogt Clothes Closet Fixtures.

Through detailed plans and specifications they show exactly how to provide double capacity in beautiful modern closets at great savings in space and building costs.

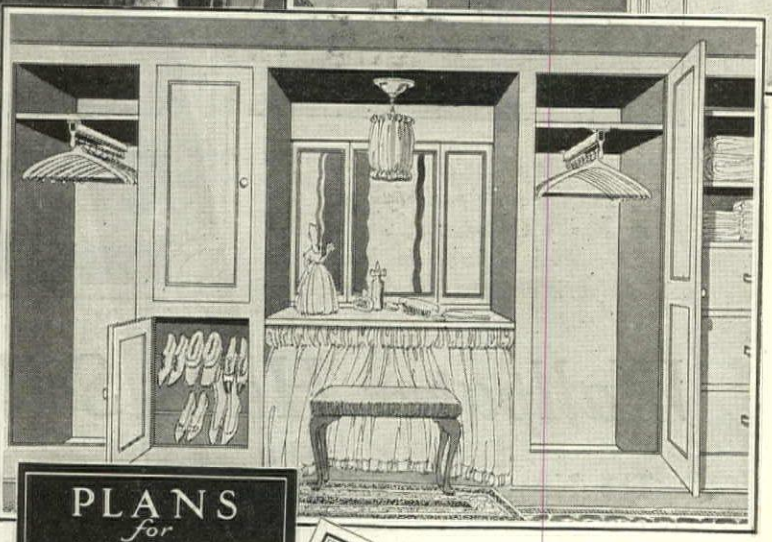
Knape & Vogt fixtures are very inexpensive. No other item of modern home equipment offers so much convenience at so little cost.

PRICES

	Each		Each
14 inch.....	$4.00	22 inch.....	$5.20
16 inch.....	4.30	24 inch.....	5.50
18 inch.....	4.60	26 inch.....	5.80
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These fixtures are sold in hardware stores everywhere. If no dealer in your territory, order from us direct. Send for the free booklets today.

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Send for these booklets

Your name and address on the coupon will bring you these useful, informative Knape & Vogt booklets. Send for them now.

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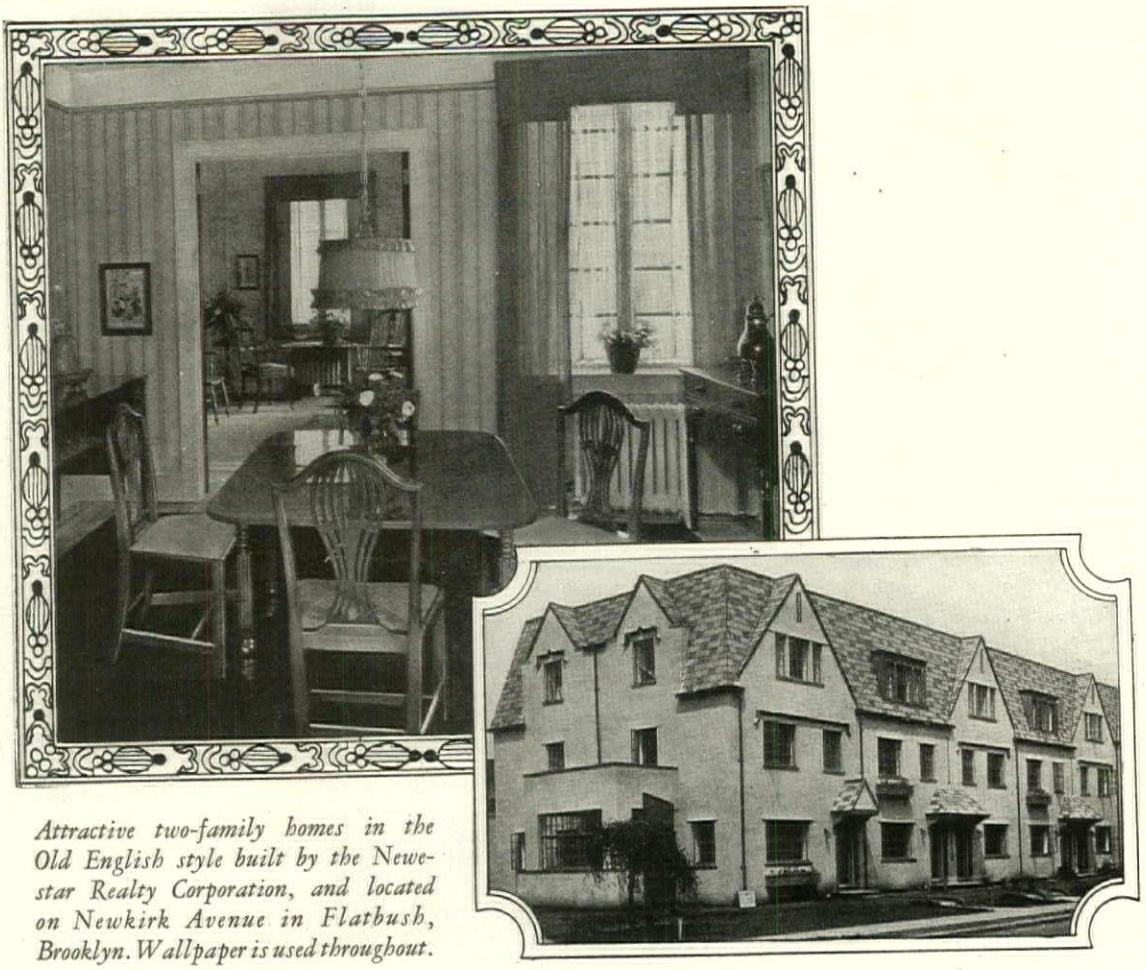
Please send me your free booklet, "Beautiful Clothes Closets," and your blue print folder, "Plans for Modern Clothes Closets," showing many different installation plans.

( ) **Architect** ( ) **Contractor** ( ) **Builder**

Name .....

Address .....

City .....



Attractive two-family homes in the Old English style built by the Newestar Realty Corporation, and located on Newkirk Avenue in Flatbush, Brooklyn. Wallpaper is used throughout.

Wallpaper Helps Sell Your Houses

The Newestar Realty Corporation builds houses that are models of design and construction. Those shown above have stucco over brick walls with slate roofs, metal casement windows, and many other features in keeping with the popular Old English style of architecture. Of especial interest is the fact that *wallpaper is used in every room.*

Mr. James B. Fisher, President of the Company, says: "Our houses are built of the finest materials obtainable. Roofs, windows, walls, fixtures, etc., are the best that money can buy and are selected to make an attractive home that will be durable as well as comfortable. Naturally, with such a background we use wallpaper. There are no painted or plain plaster walls in the houses pictured above. Every room is papered. I believe that carefully chosen wallpaper adds immeasurably to the attractiveness of a house and is a valuable selling asset."

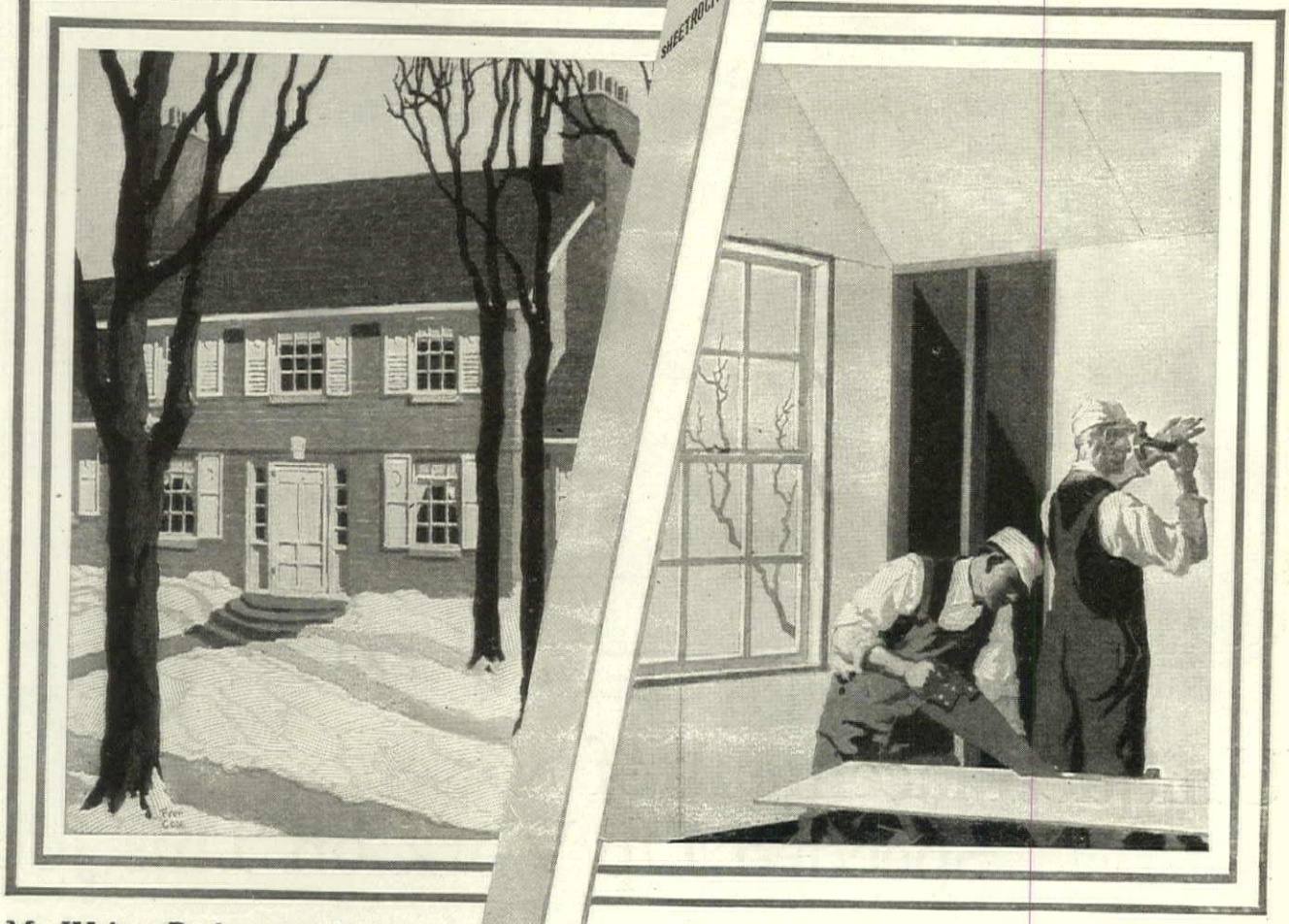
There is a style of wallpaper which will harmonize in color and design with the decoration scheme of every room in every house. The most successful builders all over the country are using wallpaper. It makes sales and makes them quickly.

Write to our Interior Decoration Service Bureau for practical co-operation in supplying builders samples of wallpaper and other aids to the solution of specific problems in the decorations of walls.

WALLPAPER

MANUFACTURERS ASSOCIATION *of the United States* 461 EIGHTH AVENUE, NEW YORK

"*All* my remodeling is done with it"



Mr. Walter Richter, well-known builder and contractor of Columbus, Ohio, says: "All my remodeling and repair work is done with Sheetrock. Used nearly two carloads of it last year. Sheetrock enables me to finish these jobs in minimum time; also avoids muss and assures satisfactory results."

You, too, will find Sheetrock, the fireproof wallboard, ideally suited for quick alterations and repairs. This gypsum wallboard is unaffected by cold or damp. It is easily erected in any weather, saws like lumber, comes all ready for nailing to the joists and studding. Makes solid, non-warping walls and ceilings that take any decoration.

Sheetrock is sold by your dealer in lumber or builders' supplies. Write today for a sample and free copy of the 48-page Sheetrock Time Book.

Sheetrock is inspected and approved as an effective barrier to fire by the Underwriters' Laboratories, Inc.

UNITED STATES GYPSUM COMPANY

SHEETROCK

Reg. U. S. Pat. Off.

The *FIREPROOF* WALLBOARD

. . . . . *Clip and mail this coupon today!* . . . . . .

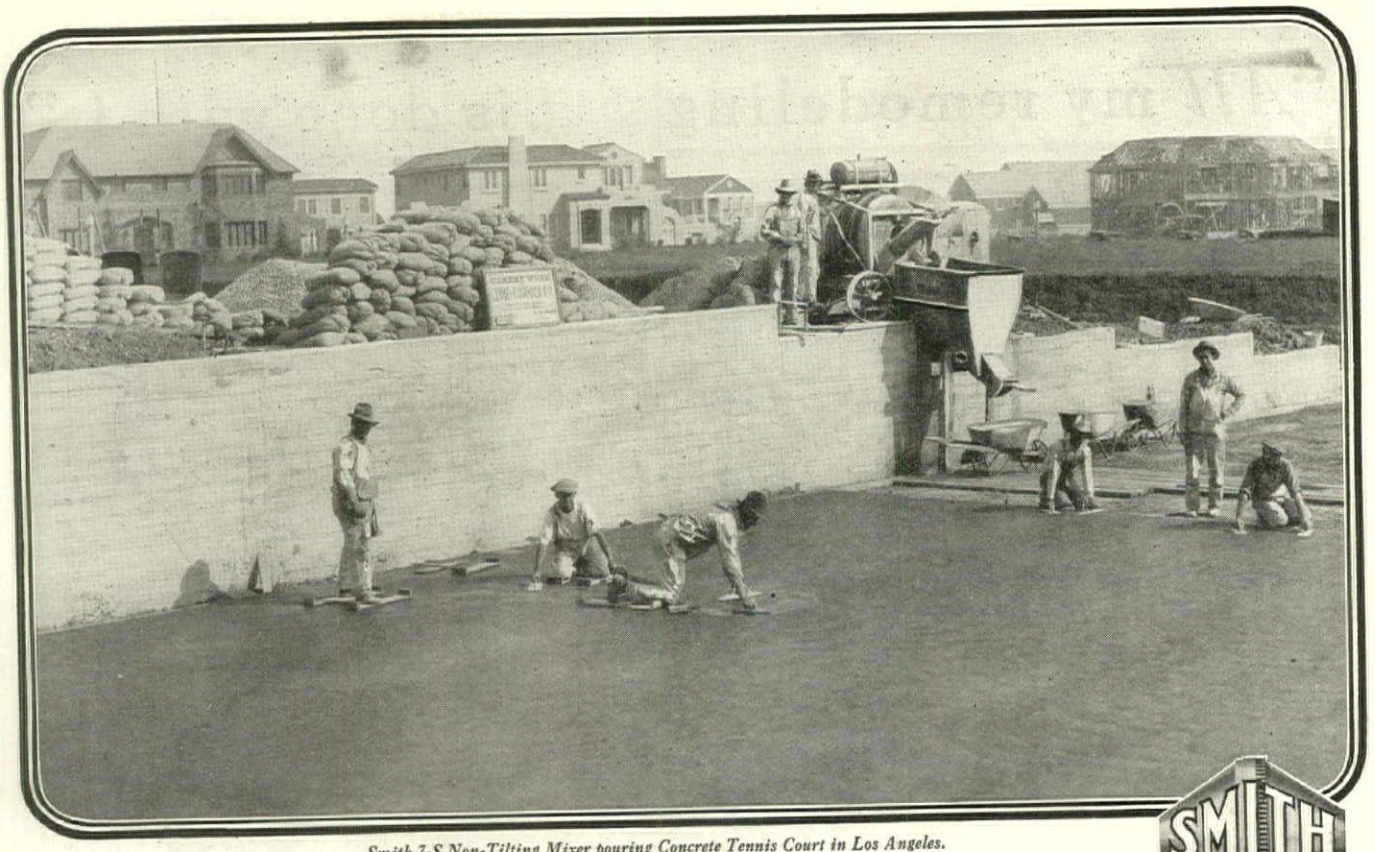
UNITED STATES GYPSUM COMPANY, *General Offices:* Department 3, 205 W. Monroe St., Chicago, Ill.

Please send me the Sheetrock sample and the free Time Book.

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Sheetrock comes in standard sizes: ⅜ inch thick, 32 or 48 inches wide and 6 to 10 feet long



Smith 7-S Non-Tilting Mixer pouring Concrete Tennis Court in Los Angeles. Owned by Cline-Corrick Co., general contractors.

Unique Placement of Mixer Speeded Up Work on This Job

There is more than one way of pouring a concrete job—as proved by the method used by the Cline-Corrick Co., general contractors, Los Angeles, in building a modern concrete tennis court in the Wilshire District of that city.

As shown in the illustration above, the Smith 7-S Non-Tilting Mixer was placed on one side of the court and by means of a special hopper on the discharge side of the mixer, the concrete was poured into wheelbarrows down on the court, thereby eliminating up-and-down runways for the barrows and the consequent extra haulings.

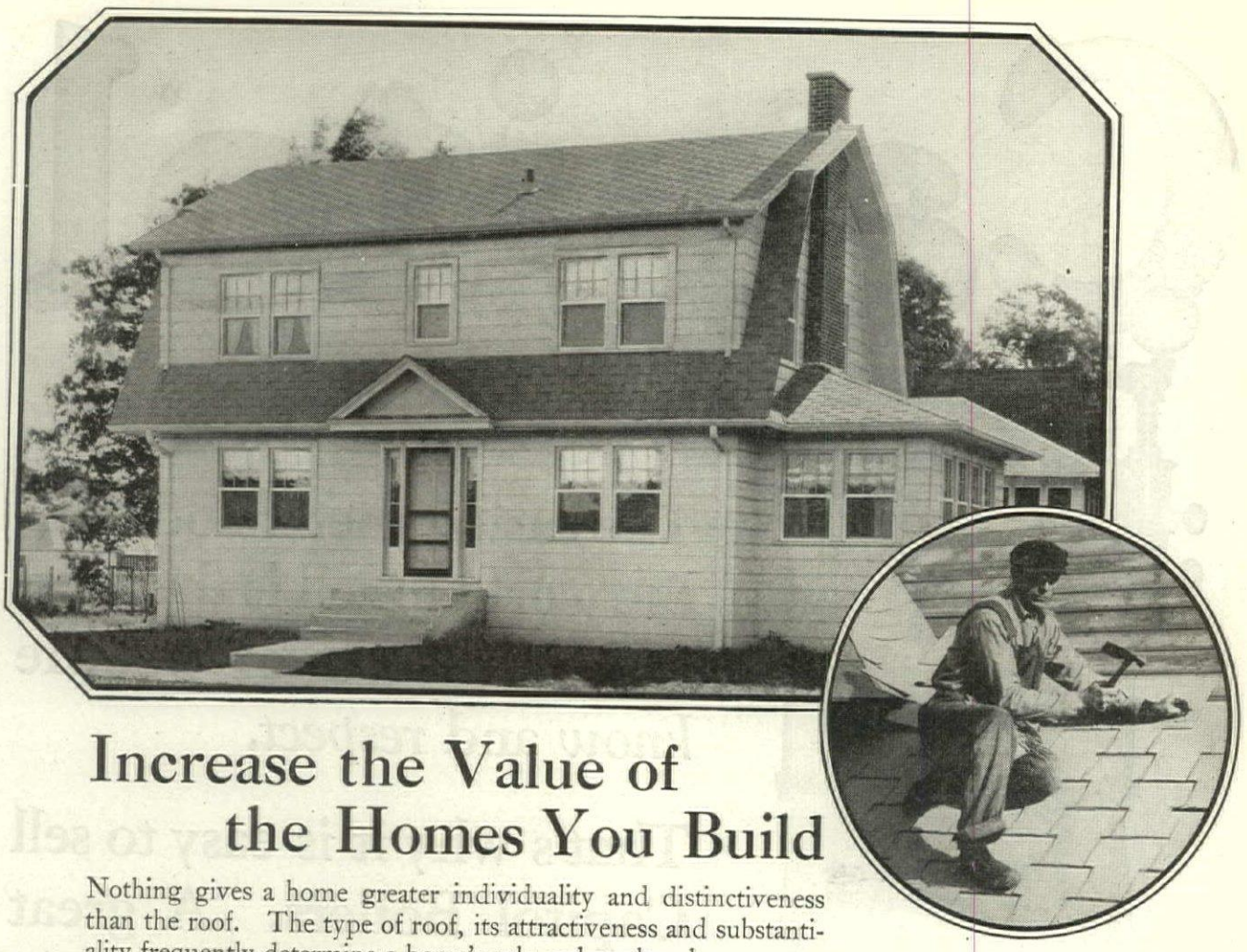
Whether it is on small jobs of this kind or on larger ones, the Smith 7-S "does its stuff" with unfailing regularity. It has the fast, accurate mixing action for which all Smith models are famous; it has the same speedy discharge; and both its operating and maintenance costs are always at a minimum. It is a true quality mixer, economical to operate, and one that keeps the red figures out of your ledger.

Write for catalogs today—we have complete lines of both Non-Tilting and Tilting Mixers.

The T. L. SMITH COMPANY
1028 32nd St., Milwaukee, Wisconsin

Sales Offices and Service Stations in all Principal Cities

SMITH MIXERS



Increase the Value of the Homes You Build

Nothing gives a home greater individuality and distinctiveness than the roof. The type of roof, its attractiveness and substantiality frequently determine a home's sale and resale value.

Prospective home owners have come to realize this. They know the roof protects their *entire* investment.

The builder who senses this can get more for the homes he builds—just as breakfast nooks, disappearing ironing boards, built-in closets, book cases and window seats make a home more saleable.

When you roof with Ruberoid Giant Tee-Loks, you get this extra sale value and at no greater cost. Here are the reasons:

Ruberoid Giant Tee-Loks give you a roof of tile-like appearance. They offer greater headlap protection, are safer and more durable as the shingles can't lift with the wind. They are locked down.

Ruberoid Giant Tee-Loks can be applied at the cost of the ordinary four-in-one strip, for each shingle is self-spacing and self-aligning. There are 272 less nails to buy and drive.

Let us send you a sample of Ruberoid Giant Tee-Loks and pictures of attractive homes whose sale values have been increased through their use. The coupon will bring them and *without* obligation.

The large photograph above shows a home roofed with Ruberoid Giant Tee-Loks. Note the heavy shadows of the double butts which give a tile-like appearance.

The photograph in the circle shows how they are laid. Note the 6 7/16 inch headlap.

The RUBEROID Co.
95 Madison Avenue, New York

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RU-BER-OID
TEE-LOK SHINGLES



There is but one Ruberoid. Look for the Man on the Label

The RUBEROID Co., Dept. 2,
95 Madison Ave., New York

Gentlemen: I am interested in Ruberoid Giant Tee-Loks Please send me samples and pictures of attractive homes whose sale values have been increased through their use.

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Address .....

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The easiest merchandise in the world to sell is the kind that millions of people *know* and *respect*.

That's why it is easy to sell Capitol Boilers. A great national advertising campaign broadcasts the story day and night.

UNITED STATES RADIATOR CORPORATION

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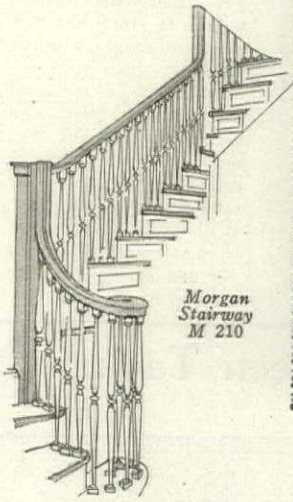
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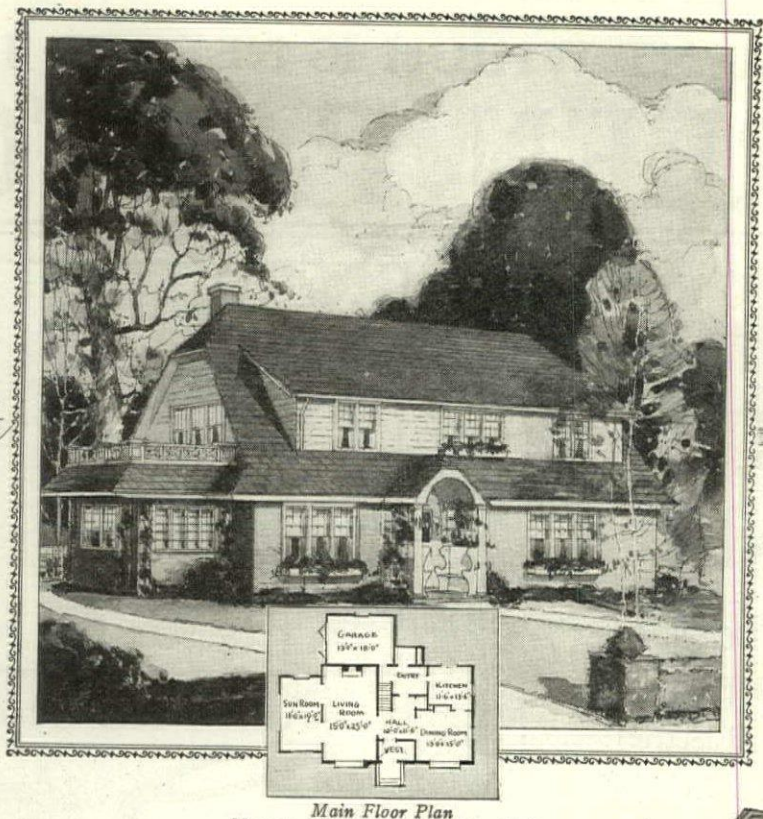
Boilers



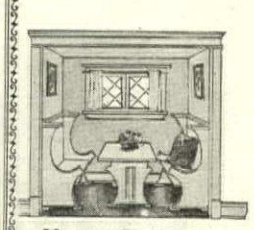
Morgan Entrance
M 50½



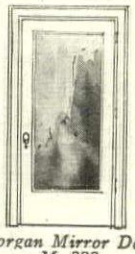
Morgan
Stairway
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Main Floor Plan
Morgan Plan Suggestion No. 16A

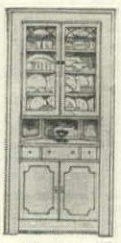


Morgan Breakfast
Nook M 392



Morgan Mirror Door
M 888

Unwisely chosen furniture may be easily discarded—not so with woodwork



Morgan
China Case
M 375

What you build into a house is built to stay. The woodwork—the right kind of an entrance—the stairway, bookcases, china closet, mantel, cabinets, breakfast nook, to say nothing of the doors and trims. These are items which should be selected with care. Therefore, experienced home builders specify their woodwork by name. And in many thousands of instances it is "Morgan-Quality." They insist upon having the genuine with this well-known quality mark stamped on every piece—MORGAN.



There is no added cost for "Morgan-Quality"

To those familiar with the products of this concern, the name Morgan stands for (1)—Over 60 years of woodworking experiences. (2)—A great organization of master craftsmen, factories and the most modern woodworking equipment. (3)—Vast acreages of timber, supplying lumber at lowest cost. (4)—A perfected system of standardized manufacturing which reduces "quality" production cost to a minimum. (5)—Highest standards, rigidly maintained through three generations of service to the home builder.



Morgan Fireplace
M 514

Write for copy of our current Price Supplement. Or mail coupon for prospectus describing "Building with Assurance."



Get This 440-Page Master Book on Home Building

"Building with Assurance" (Second Edition) contains the information you need to help you cut costs, save time and avoid mistakes.

"Building with Assurance"

Indorsed by over 15,000 *authorities*

This great book shows page after page of homes of all types in colors—with floor plans. The home illustrated above, for example, with complete floor plans, will be found on page 39. In addition, you get help on room arrangement, interior decoration, floor coverings, lighting, heating, plumbing and landscaping.

Mail coupon for prospectus

"Building with Assurance" is not for general distribution. It is for earnest home lovers. Our prospectus tells all about it—shows beautiful homes in colors, with floor plans. The prospectus is gladly sent to those who mail the coupon.

Address nearest office, Dept. U-2

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Morgan Millwork Company, Baltimore, Maryland
Morgan Company, Oshkosh, Wisconsin

Gentlemen: I am a contractor, so please send me at once a copy of your beautiful prospectus which describes "Building with Assurance."

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Address .....

Town ..... State .....

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STANDARDIZED WOODWORK

MORGAN WOODWORK ORGANIZATION

MORGAN COMPANY, Oshkosh, Wis.; New York City
MORGAN SASH & DOOR COMPANY, Chicago, Ill.; Detroit, Mich.; Cleveland, Ohio
MORGAN MILLWORK COMPANY, Baltimore, Md.; Jersey City, N. J.; Greensboro, N. C.

MORGAN

Look for this mark on every Morgan Product

EQUIPMENT WHICH IS NEEDED IN EVERY SCREEN FACTORY

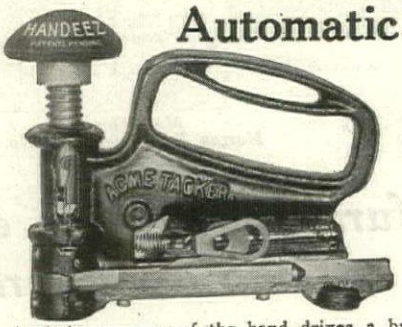
We Make a COMPLETE LINE OF

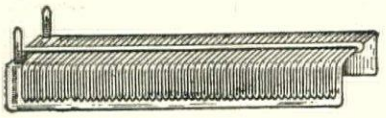
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NUMEROUS OTHER
WOODWORKERS' SPECIALTIES



A very convenient and quick operating device for stretching screen wire. It stretches the wire and holds it while tacking, until it is released. It is operated entirely by foot, and works faster and far better than home made devices. Makes your screens 100% Perfect. Will take any width wire up to 48 inches but can be built larger if desired.

Automatic Screen Tacker





8 Times Faster Than the Hammer and Tack

A slight pressure of the hand drives a broad flat double pointed staple into hard or soft wood. Staple straddles five strands of wire. No banging of fingers and no waste. Holds twice as strong as tacks. Screen manufacturers now using the ACME use three staples in place of five tacks.

A World Beater for Tacking Tags on Shipments

MODEL "C"—as illustrated above—(For Flat Surface Lumber.....$7.00
MODEL "E" (For Flat and Rabbeted Lumber).....8.00
Staples, 30,000 lots, per M.....$0.48 Staples, 125,000 lots, per M.....$0.38
Staples, 60,000 lots, per M..... .43 Staples, 250,000 lots, per M..... .35

Price on Larger Quantities on Request
Pure Copper Staples, 10 Cents Per Thousand Higher
PRICES ARE F. O. B., NEW YORK
PRICES F. O. B. SAN FRANCISCO ARE SLIGHTLY HIGHER

Moulding Mitre Cutter

This Handy Tool is Filling a Long Felt Want With Window Screen Makers

It cuts smooth both ends of a strip in less time than it can be dropped in a mitre box, and does it right every time. It is operated entirely by foot and is so simple that any boy can operate it.

Price $35 F. O. B. Milwaukee



Write for Our Complete Catalog on Screen Factory Equipment

A. & L. MARKWELL MFG. CO.

79 STEUART STREET....SAN FRANCISCO, CALIF.
176 FRANKLIN STREET.....NEW YORK, N. Y.



WHITCO *"The Easy Hardware"*

Any carpenter — whether he is familiar with it or not — can install Whitco Hardware on a casement sash or transom easier, quicker and more economically than any other kind of hardware

The only fitting it requires is the chiseling of two housings, one at the top and one at the bottom of the sash — just as easy to make as those ordinarily required for butts, but only half as many

If the sill is bevelled, he levels it out from the jamb for eight inches, but otherwise, a screwdriver is the only tool he needs, for, after housing out the sash, he has only to attach the hardware to it — set the sash in the opening and secure the hardware to the header and the sill.

Whitco takes the place of both butts and adjusters for swinging and controlling casement sash and transoms. It is entirely concealed; it is absolutely self-adjusting, and it holds, without rattle, in any wind.



WHITCO makes it easy and safe to clean the outside of a casement window from within the room.

You can buy Whitco from your Hardware Dealer

In Solid Brass (per set) the equipment for one casement sash or transom	$2.25
Rust-proofed Steel " " " " " " " "	$1.75

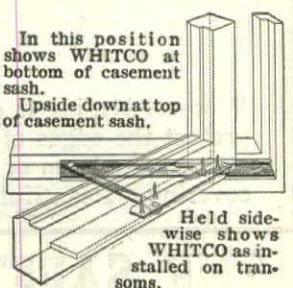
VINCENT WHITNEY COMPANY

Western offices:
365 Market Street
San Francisco

Eastern offices:
636-642 Mass. Trust Bldg.
Boston

Send all inquiries to nearer Office.

Copyright 1925, H. E. Holbrook Co.



In this position shows WHITCO at bottom of casement sash.

Upside down at top of casement sash.

Held sidewise shows WHITCO as installed on transoms.

The Safest, Cleanest Most Easily Installed STAIR TREAD

SAFEST because the foot can't slip on the effective lead or carborundum *anti-slip surface.*

Cleanest because dirt, cigars, etc., lodge in the open grooves, leaving the walking surface free for firm, effective foot contact. These grooves are easily swept clean.

Most easily installed because any desired width can be had by combining standard sections. Special anchors furnished to hold the treads firmly in place when to be set in new concrete.

Wooster Safe-Groove Treads prevent accidents, protect stairways for years against wear. The metal and anti-slip wear away simultaneously, evenly—*the anti-slip always works.*

Send for blueprints showing installations on every type of stairway, platform or landing. See our catalog in Sweet's. Sizes carried in stock in all widths for immediate shipment.

Made with a Steel, Yellow Brass or White Brass Base, Carborundum or Lead Filled.



Boulevard School, Cleveland, Ohio
Architect, Franz Warner
Contractor, The Charles Peterson Co.

**for SCHOOLS
OFFICE
BUILDINGS
HOTELS
FACTORIES
RAILROADS
THEATERS
HOSPITALS
STEAMBOATS**

WOOSTER

SAFE—GROOVE STAIR TREAD

NOSING THAT PROTECTS STAIRS AND FLOORING

Wooster Nosing is designed to protect the edges of stair steps and the linoleum or other stair covering. Beautifully finished, cut to desired length, holes drilled and spaced, ready for installation. Made in yellow brass and white brass. Fastened with screws through flange. Send for blue prints showing six installations.

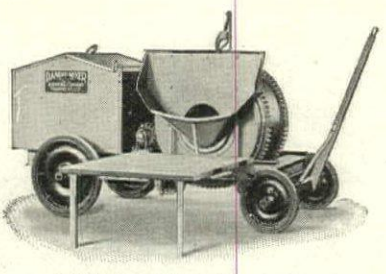
THE SAFETY STAIR TREAD CO., WOOSTER, OHIO

KOEHRING

DANDIE Light Mixer

EQUIP it to your special needs. Rubber tires to save the time waste of between-job hauls, and to expand your working territory. *Light duty hoist. Low charging platform or power charging skip. Automatic water-measuring tank.*

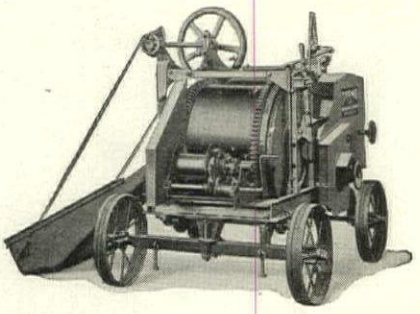
Most important, you can be sure of full capacity — utmost reliability — and long service-life — because this mixer is Koehring built, engineered and constructed to out work, out last anything in the light mixer field. Price? Not the lowest price — no — but the most remarkable value of all light mixers — and still within the range of light mixer prices.



107-S with rubber tires and low charging platform and hopper.

Dandie Capacities

7 cu. ft. Mixed Concrete. Gasoline power. Power charging-skip or low charging platform with hopper, light duty hoist, automatic water measuring tank. Standard or flanged rim steel wheels, or disc wheels, rubber tired. Mixes mortar as well as concrete.



KOEHRING COMPANY

PAVERS, MIXERS—GASOLINE CRANES, DRAGLINES AND SHOVELS

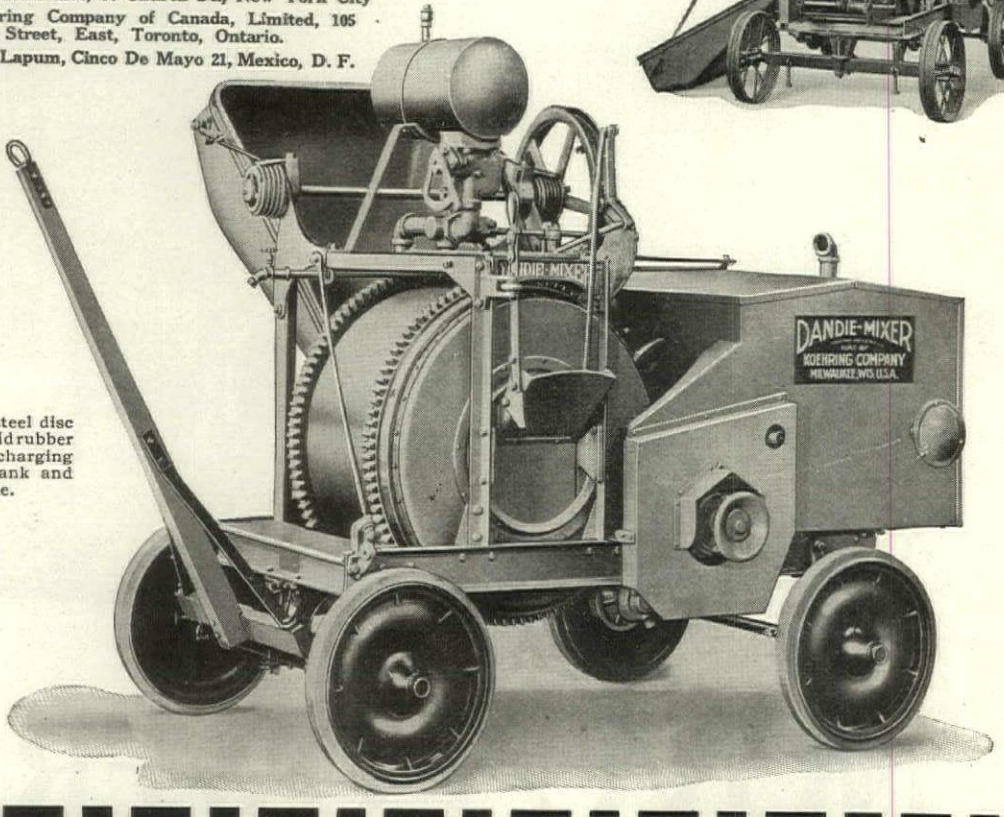
MILWAUKEE, WISCONSIN

Sales Offices and Service Warehouses in all Principal Cities

Foreign Dept., Room 1370, 50 Church St., New York City

Canada, Koehring Company of Canada, Limited, 105 Front Street, East, Toronto, Ontario.

Mexico, F. S. Lapum, Cinco De Mayo 21, Mexico, D. F.



Dandie with steel disc wheels and solid rubber tires; power charging skip, water tank and gasoline engine.

Send Back the Coupon. Get the Dandie catalog. Get free detailed information about this remarkable value before you think of buying a mixer. Use the coupon now before you let it slip your mind.

KOEHRING COMPANY MILWAUKEE, WIS.

Without obligation to me of any kind, send me free information about the Koehring Dandie Light Mixer D-4.

Name_____

Address _____

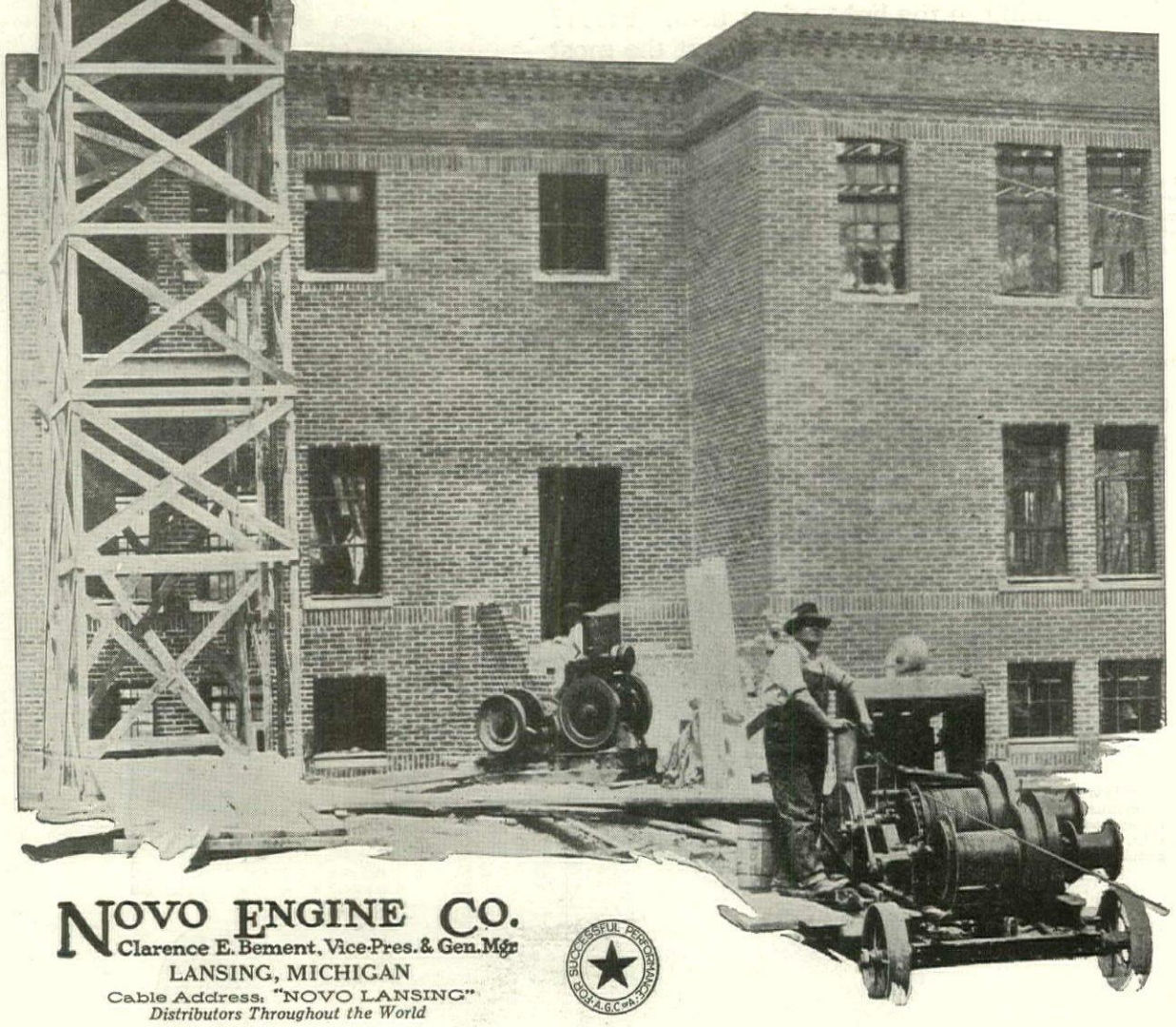
A Complete Line of Gasoline Hoists

NOVO POWER

NOVO manufactures light and heavy duty, single and double drum hoists from 4 to 40 Horsepower. These hoists are good for every job in the hoisting field. Powered with the reliable Novo single, two and four cylinder gasoline engines.

The photograph shows two Novo hoists hard at work on a job which included nine large buildings similar to the one shown. The two Novo hoists handled all brick, cement and other materials.

This is only one of hundreds of cases where Novo reliability and service have saved money for Novo owners. If you have hoisting problems, get in touch with one of our 65 distributors or with us direct.



NOVO ENGINE CO.
Clarence E. Bement, Vice-Pres. & Gen. Mgr
LANSING, MICHIGAN
Cable Address: "NOVO LANSING"
Distributors Throughout the World

SUCCESSFUL PERFORMANCE A.G.C. Exhibit



NOVO POWER
Keeps Operations Moving



ENGINES
Single Cylinder, 1½-10 H.P. (frost proof)—two cylinder, 6-12 H.P.—four cylinder, 12-40 H.P.

HOISTS
Single and double drum—one and two speed and reversible, portable heavy duty types—powered with Novo Engines

NOVO POWER

PUMPS
Open and closed top diaphragm—centrifugal—deep well—single, duplex double acting and triplex pressure pumps.

COMPRESSORS
Three sizes—up to 170 cubic feet—with steel housings mounted on trucks. Combination hoists and compressors

Make More Money~Be a Bigger Builder

The Good Things—the Big Things—of Life are for those who will reach out for them. You can have them for the grasping—just an energetic thought—saying "I Will" and they are yours. Are you content to make a small profit slowly on hand labor or—will you make a large profit quickly by means of a modern machine? Which?

IT'S EASY

Let The Magic Mixer~ Mix Your Concrete

Does it faster—better—cheaper

This Mixer will put you in position to do all kinds and classes of concrete work. It will enable you to work faster, do more work, do bigger work, do better work—and will help you build up a permanent and substantial business.



$25

BRINGS IT TO YOU

Balance on Aloe's Easy Rental Purchase Plan—you have TEN MONTHS TO PAY—and the mixer will be making money for you faster than the easy payments come due. Certainly this is a rare opportunity for you to get away from the old shovel method and get into the class of the big men who are doing the big jobs in the modern way.

WHICH?



YOUR BIG OPPORTUNITY for BIGGER SUCCESS

With this wonderful machine and two men you can do as much work as you formerly did with six men. And you can do it easier, quicker and better, producing an absolutely uniform batch every time. It will mix 4½ to 5½ cubic feet per batch—can be speeded up to a batch every minute—over 2,000 cubic feet per day. It is the most practical and efficient mixer made—scientifically constructed of the best materials—light in weight, portable, simple and durable. Backed by the Aloe iron-clad guarantee to give the utmost service and satisfaction.

The Engine

Fitted with 2½ horse-power four cycle, horizontal gasoline engine with high-grade Webster magneto. Simple, powerful, reliable, economical—requires only two gallons gasoline a day. Protected by all-steel housing. Two doors at rear make it easy to get at.

Comes Complete

Nothing complicated—nothing to get out of order. Can be operated by anyone who will read and follow the simple directions which are furnished with each mixer. It comes complete—ready for work the day you get it.

FREE



Free Trial—Easy Terms

So confident are we the Magic Mixer will please you in every way we will gladly send it to you for 10 DAYS FREE TRIAL on payment of only $25.00. Take it out on your jobs—put it to the most severe tests. Then, if you can be induced to part with it again ship it back at our expense—and we will promptly return your money without a word.

Get This FREE Book

You ought to have this booklet of invaluable facts about the wonderful opportunities the Magic Mixer offers you. Sent FREE together with full particulars of our Easy Rental Purchase Plan by which the Magic Mixer will pay for itself and put you on the road to greater success at the same time. Get this remarkable offer.

INVESTIGATE NOW!

The road to success is open to you. The opportunity to make yourself a big man is before you. The simple act of signing and mailing this coupon may be the turning point of your career. Don't sit idly by while other men are forging to the front. Start the coupon on its way. Get the facts. The time to act is NOW.

A. S. ALOE CO.
632 Olive St., St. Louis, Mo.

MAIL COUPON TODAY

A. S. ALOE CO.
632 Olive St., St. Louis, Mo.

Send me FREE booklet, "The Concrete Road to Success", full description of the Magic Concrete Mixer and particulars of your Easy Rental Purchase Plan.

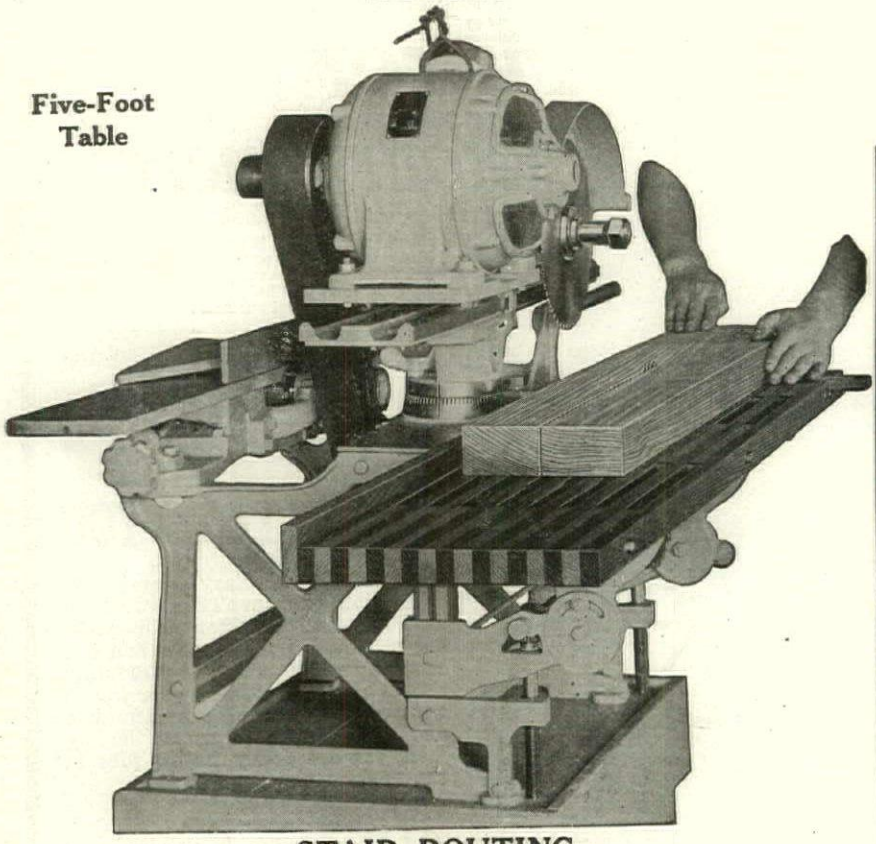
Name_____

Address_____

The "Master"

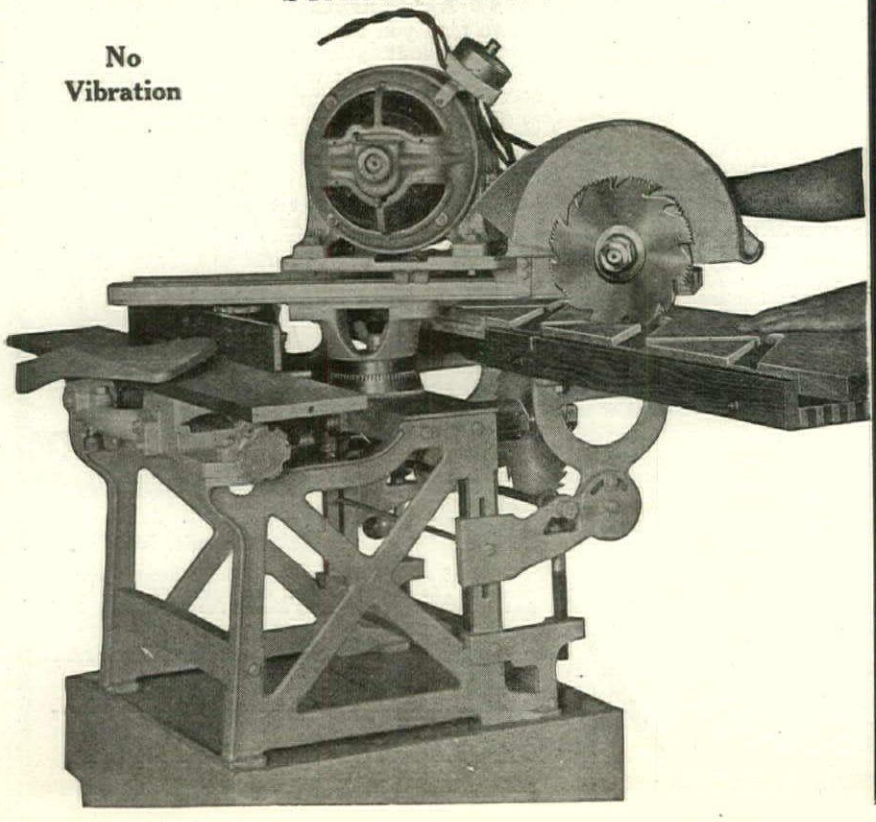
RIPPING

Five-Foot
Table



STAIR ROUTING

No
Vibration



THE NEW

WITH MODERN OVER
UNDERSLUNG

Rips 30 Lineal Feet

Cross Cuts 3"
DADOES 2" WIDE
JOINTS 6" WIDE

ACTUALLY

WEIGHS
INCLUDING MOTOR

MOTOR and JOINTER

FOR ONE MAN

LIBERAL

YOUR MONEY REFUNDED

Manufactured by

The Master Woodwork

612 Brush Street, Dept. A

Woodworker

JOINTING

MODEL NO. 12

HEAD CROSS CUT AND
RIP SAW

2" Stock per Minute

STOCK AT FULL SPEED
x 2" DEEP
x ½" DEEP

PORTABLE

395 POUNDS
AND JOINTER

QUICKLY DETACHABLE

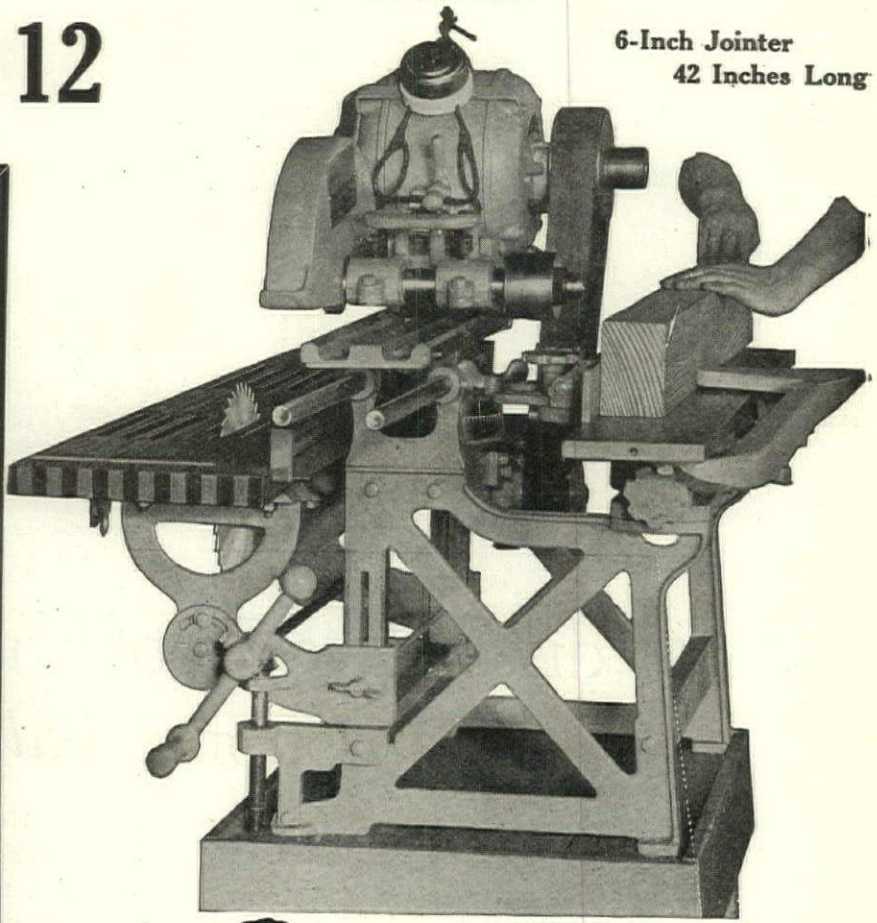
HANDLING

TERMS

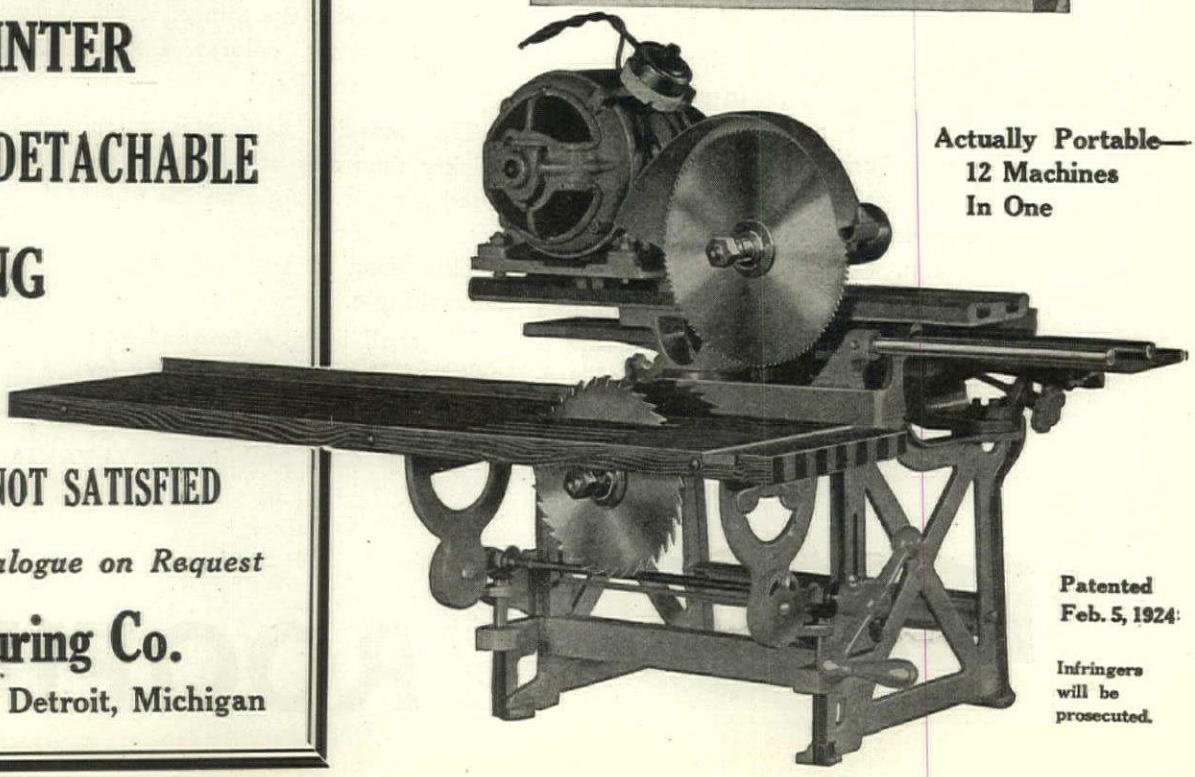
IF YOU ARE NOT SATISFIED

Catalogue on Request

Manufacturing Co.
Detroit, Michigan



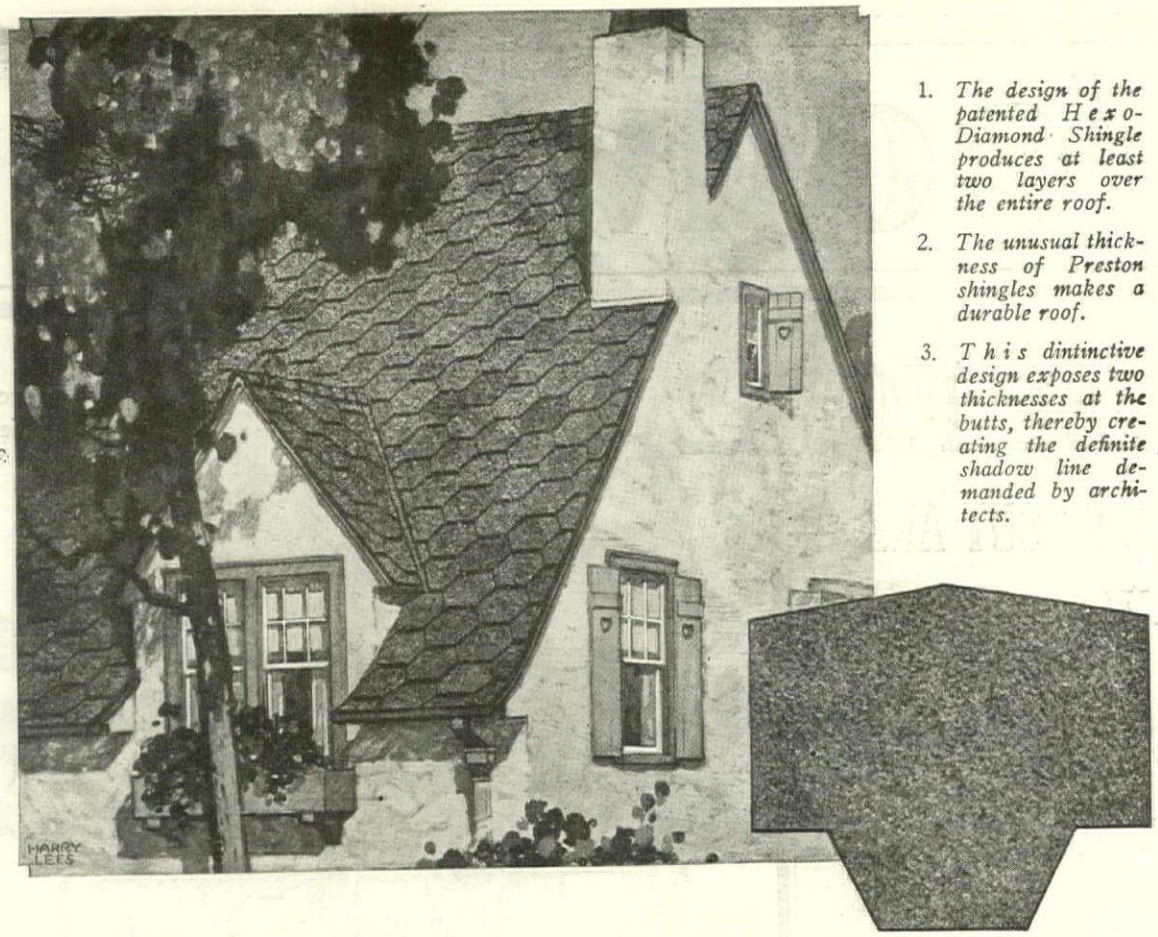
6-Inch Jointer
42 Inches Long



Actually Portable—
12 Machines
In One

Patented
Feb. 5, 1924

Infringers
will be
prosecuted.



1. *The design of the patented Hexo-Diamond Shingle produces at least two layers over the entire roof.*
2. *The unusual thickness of Preston shingles makes a durable roof.*
3. *This dintinctive design exposes two thicknesses at the butts, thereby creating the definite shadow line demanded by architects.*

A distinctive Roof that gives *a* home *individuality*

THE soft, mellow effect of Preston Sunset Shingles is not unlike the tones of old copper or autumn foliage. Each shingle is surfaced with colored slate and stone particles firmly imbedded into the asphalt coating. Preston Sunset Shingles have been successfully used on every type of house from a cottage to a mansion.

The design of the patented Hexo-Diamond Shingle makes a pattern which is a series of uniform hexagons.

Preston Hexo-Diamond Shingles are made in three weights, Standard, Extra Heavy and Massive and besides the Sunset shade in three other colors: Green, Blue-Black and Red.

The "massive" weight is much thicker than any other slate surfaced asphalt shingle on the market, and approximately one-third thicker than a Standard No. 1 slate shingle.

We shall be glad to send you name of Regional Distributor on Request.

KEYSTONE ROOFING MANUFACTURING CO., Dept. C2, YORK, PENNSYLVANIA

Preston YORK ROOFING MFG. CO. YORK, PA. **ROOFING**



Timber

AS each giant of the forest begins to totter, the steady zing of the saw ceases and the axman calls the warning, "Timber!" ¶ This is the signal to look up, gauge the direction the giant will take and step to a position of safety. ¶ The cry of "Timber" means another thing also. It is a signal that one more carefully selected pine has passed the first test of quality and started on its long journey to supply your need for Shevlin Pine.

Shevlin, Carpenter & Clarke Company

900 First National-Soo Line Bldg., Minneapolis, Minn.

SHEVLIN

LOG MARK REGISTERED

HOW MUCH IS COLOR WORTH?

Mail-order houses are able to determine to a penny how much they make on any page in any catalog. Their records show that a page in color sells from four to seven times as much as when it is printed in black and white.

Color adds so much in attention value and in vividness of presentation that mail-order houses have found it profitable even when the cost is many times as much as black and white.

In 1914 only one per cent of national magazine advertising was in color. Today it has increased to over thirty per cent.

Three of the color advertisements in this issue were prepared by this advertising agency. They are those of:

Shevlin, Carpenter & Clarke Company
Andersen Lumber Company
The B. F. Nelson Manufacturing Company

Four pages were printed at one time thus greatly reducing the cost per page. These advertisements appear in a list of publications reaching the entire building material field,—architects, contractors and lumber dealers.

MAC MARTIN ADVERTISING AGENCY

Security Building, Minneapolis

Nelson
MASTER·SLAB·ROOFS

EXACTLY the right roof for the house—rugged of texture, clean of line and rich in coloring. A shelter that will give not only pride of ownership but comfort for years to come.

For, beneath the beauty of a Nelson Master Slab roof, lies the durability of high grade materials, the safety and economy found in expert workmanship.

May we send descriptive booklet?

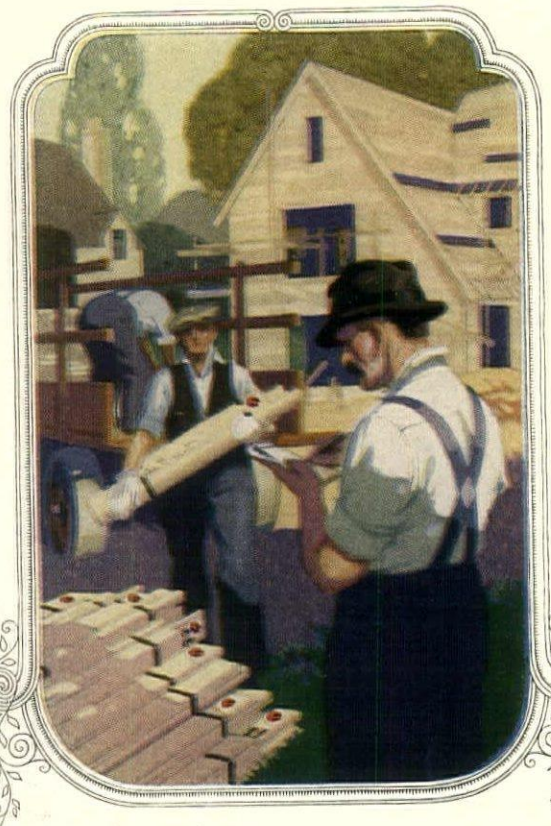
The B. F. Nelson Manufacturing Co.
Minneapolis, Minn.



Notice the beautiful lines of a Nelson Master Slab Roof. The colors become softer and more harmonious with the changing seasons. Write for free samples of the six basic colors, moss green, autumn brown, Spanish red, velvet black, purple or maroon.

This popularity has made the Andersen Standard Frames the best known and most widely used. 4,000,000 of them have been used during the past 20 years.

Write for latest information on Andersen Standard Frames, stating whether you are an architect, contractor, dealer or prospective home owner.



Andersen Frames are always ready

Another reason Andersen Standard Frames are so popular is that builders always want their frames in a hurry.

You see, any Andersen dealer can make immediate delivery of 121 different sizes of window frames right from stock. They can take care of cellar sash frame and door frame orders just as promptly. Time is money to the builder.

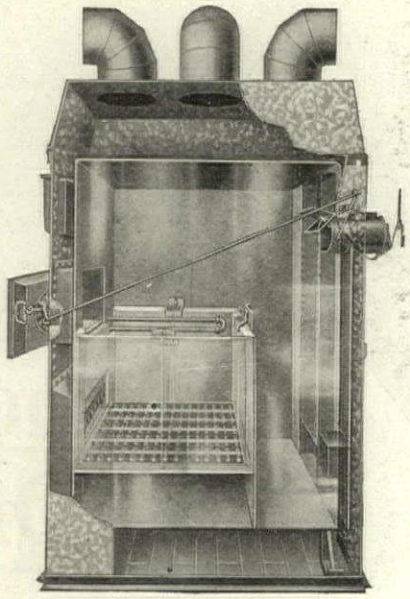
Andersen Lumber Company
Bayport, Minnesota

Andersen FRAMES

WHITE PINE Andersen FRAMES

Look for this trade mark—it appears on every Andersen Frame.

HESS *Welded Steel* FURNACE



Installed according to our Free Plans to fit your Home— Guaranteed to heat every room connected.

Why Pay More for Less!

BEFORE spending your money for a heating plant and installing it in your home, where, if it does not prove successful, it can only be replaced at great loss,— investigate the Hess *Welded Steel* Furnace.

You will find the Hess most economical in the use of fuel; that it sends up heat immediately; that its heat can be increased or diminished at will; and that it provides proper humidity and thorough circulation of heat. The Hess is easy to install and easy to operate. In spite of its superiority, it is low in price and will never cost more than a few dollars for repairs through many years of service.

The secret of Hess clean, successful heating lies in the *welded steel* radiator, rectangular firebox, and fire brick lining. Verify these facts by asking Hess users. We will send you the names of many in your community.

For Contractors

We make *special rates to Contractors*, for resale, and very many are installing Hess Furnaces from our heating plans. These plans, showing all details, are free to all inquirers.

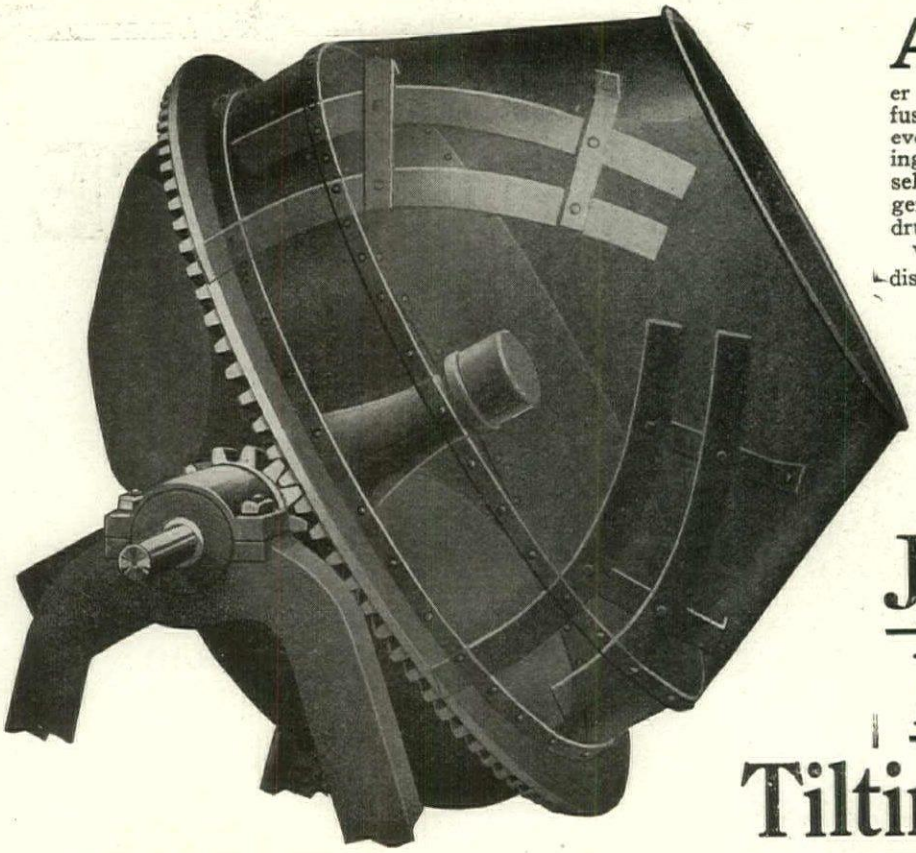
"Modern Furnace Heating", a technical book on heating and fully describing Hess Furnaces, will be sent on request. Ask about our Free Heating Plan Service, under which we guarantee satisfactory heating.

HESS WARMING AND VENTILATING COMPANY

1201-G South Western Avenue - Chicago

Branch Offices: Brooklyn, N. Y; Detroit; Cincinnati; Milwaukee; Minneapolis.

Local Distributors: B. M. Huntington, Walla Walla, Wash; H. Taylor & Sons, Jacksonville, Fla; H. Cable, Falls Creek, Pa; J.B. La Gesse, Garden City, Kan; F. Mezera, Eastman, Wis; C.E. Shingledecker, Clarion, Pa; J. E. Good & Son, Harrisonburg, Va



ALL tilting-drum mixers are not Jaegers. "The Jaeger" is far superior to any mixer made, and should not be confused with inferior machines, even though they be of the tilting-drum type. Protect yourself by getting the "genuine Jaeger." Look for the name on the drum and the flat spots inside.

Write us for the name of the distributor nearest you.

Jaeger's Famous Tilting-Drum

Insures Perfect 3-Way Mixing Action

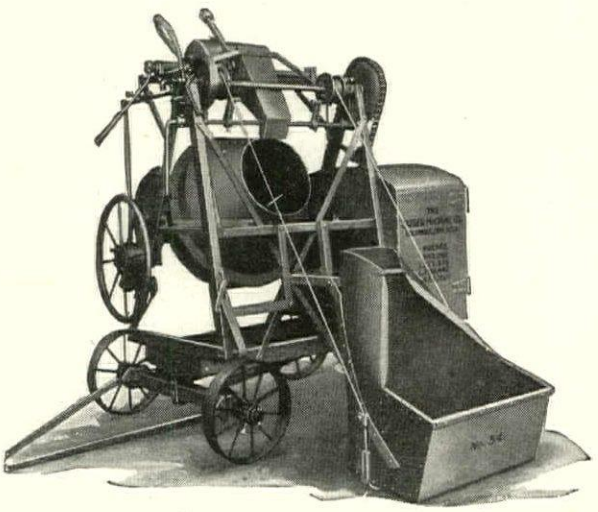
FORWARD—back—center—and cement, water and aggregate are forced into perfect combination. The rapid, powerful 3-way mix of the Jaeger Tilting-Drums speeds production at mix-a-minute speed. Its knife-like rigid paddles slice across the mix, turning it over and over and towards the center. The flat spots on the bottom of the bowl force it forward while its own weight carries it backward. An instant's tilt of the drum and a smooth, thoroughly mixed batch is ready for use.

The Jaeger Tilting-Drum is the first tilting-drum built into a concrete mixer. It is the basis of the complete Jaeger Line of 30 complete concrete mixing outfits. Mounted on one center bearing, this famous Drum is a model of simplicity and strength, combined with generous capacity. Quick loading and rapid discharge are the oustanding characteristics of all Jaeger Tilting-Drum Mixers.

The Jaeger organization with its years of manufacturing experiences, ample resources and broad-gauged policies is back of every Jaeger Concrete Mixer. Its guarantee of satisfaction is your surety for perfect service.

When next in the market check up Jaeger reputation and Jaeger's Record of Performance. Our catalog will be sent promptly on request.

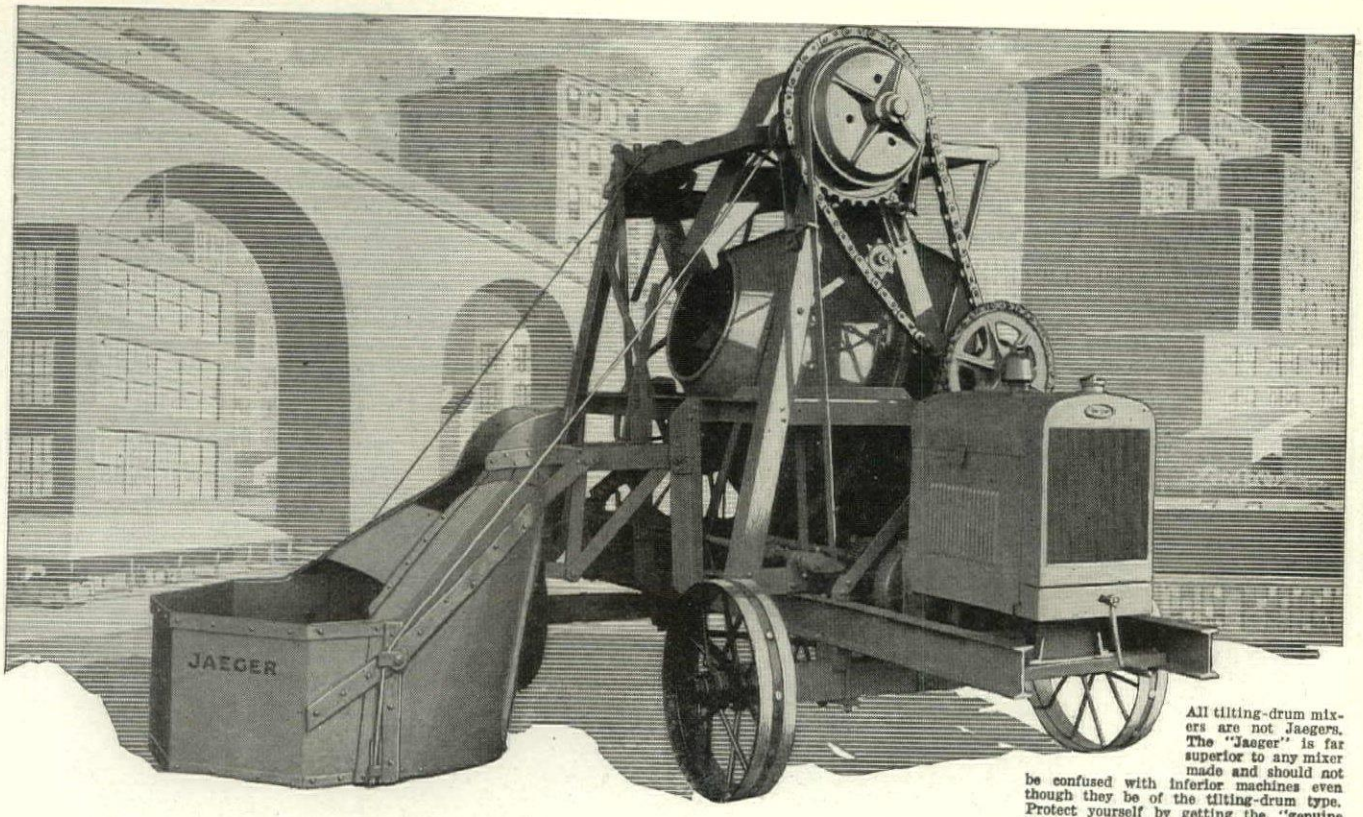
THIS illustration shows the Jaeger 5-L—the ideal one sack mixer for general building work.



STOCKS CARRIED IN ALL PRINCIPAL CITIES

The Jaeger Machine Co.

216 DUBLIN ROAD, COLUMBUS, OHIO



All tilting-drum mixers are not Jaegers. The "Jaeger" is far superior to any mixer made and should not be confused with inferior machines even though they be of the tilting-drum type. Protect yourself by getting the "genuine Jaeger." Look for the name on the drum and the flat spots inside.

Back of Every JAEGER~

The Most Imposing Concrete Structures of the Nation

THE world's tallest concrete office buildings—the greatest concrete stadiums—palatial hotels—acres of busy concrete factories—beautiful homes—and wide, winding concrete boulevards! These form the milestones of Jaeger Progress and mark the efficiency of every Jaeger Concrete Mixer.

A Jaeger means to you the greatest value you can buy in a Concrete Mixer. It is not just a concrete mixing machine—it is the Original Tilting-Drum Mixer—built for service in every bolt and screw—in every part and parcel of material that goes into it.

From towering sky-scrapers to modest garage or garden walk, Jaegers have served the concrete industry faithfully. They afford you downright dependable production year after year. They cut your building costs enormously—make possible *estimates that "get the business at a profit."*

Before you buy another concrete mixer, look around. Notice how many Jaegers are in daily use. Ask their owners for their records and find out the tremendous amount of work they handle. Then you'll find the answer and the reasons for it—*low cost, thoroughly mixed, high speed concrete production for every working hour.*

Jaeger Mixers make up a complete line of 30 concrete mixing outfits ranging from 3 to 14 cu. ft. per batch of mixed concrete. One of these outfits is what you need. Write us today for our illustrated catalog and start the New Year with a Jaeger "Mix-a-Minute" to turn out profits for you.

Stocks carried in all principal cities. Write us for the name of the distributor nearest you.

THE JAEGER MACHINE CO.

216 DUBLIN ROAD COLUMBUS, OHIO

JAEGER

The Original Tilting Drum Mixer



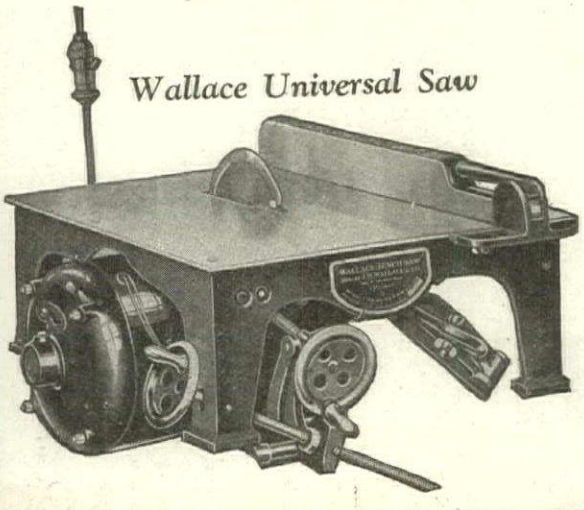
Saves $100 on Every 5-Room House

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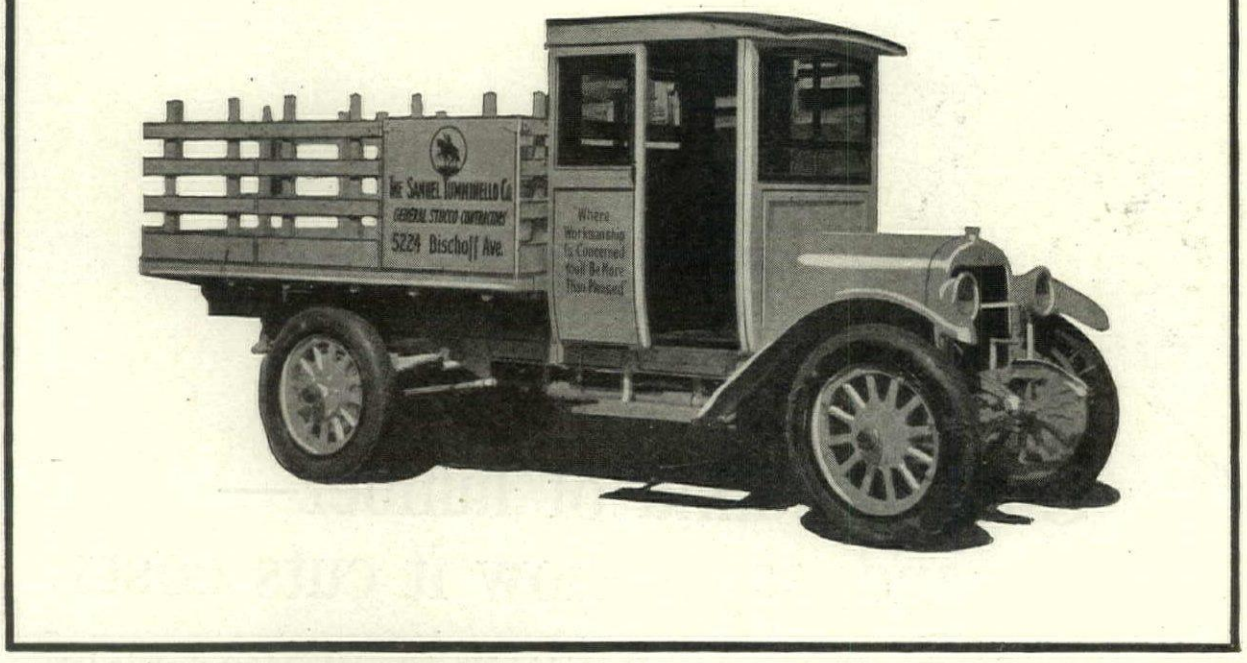
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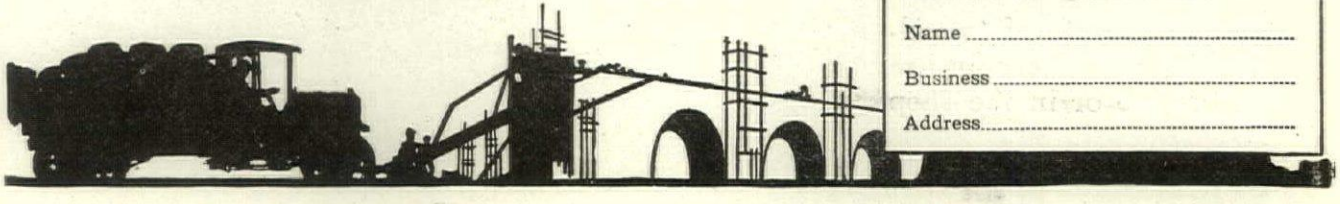
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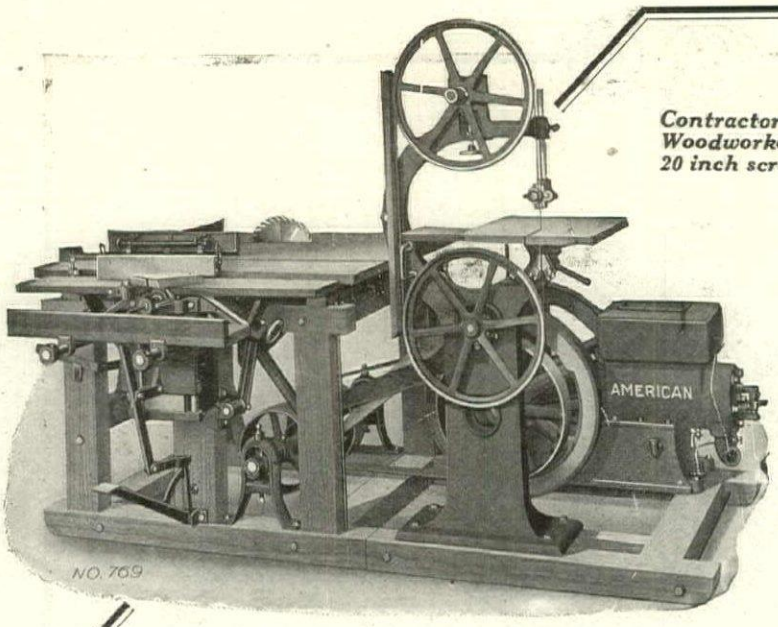
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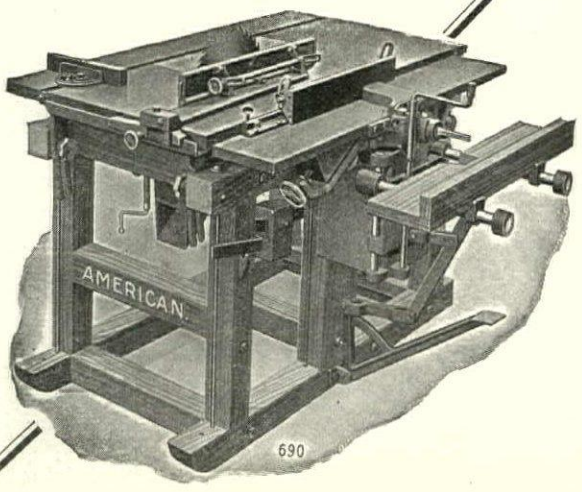
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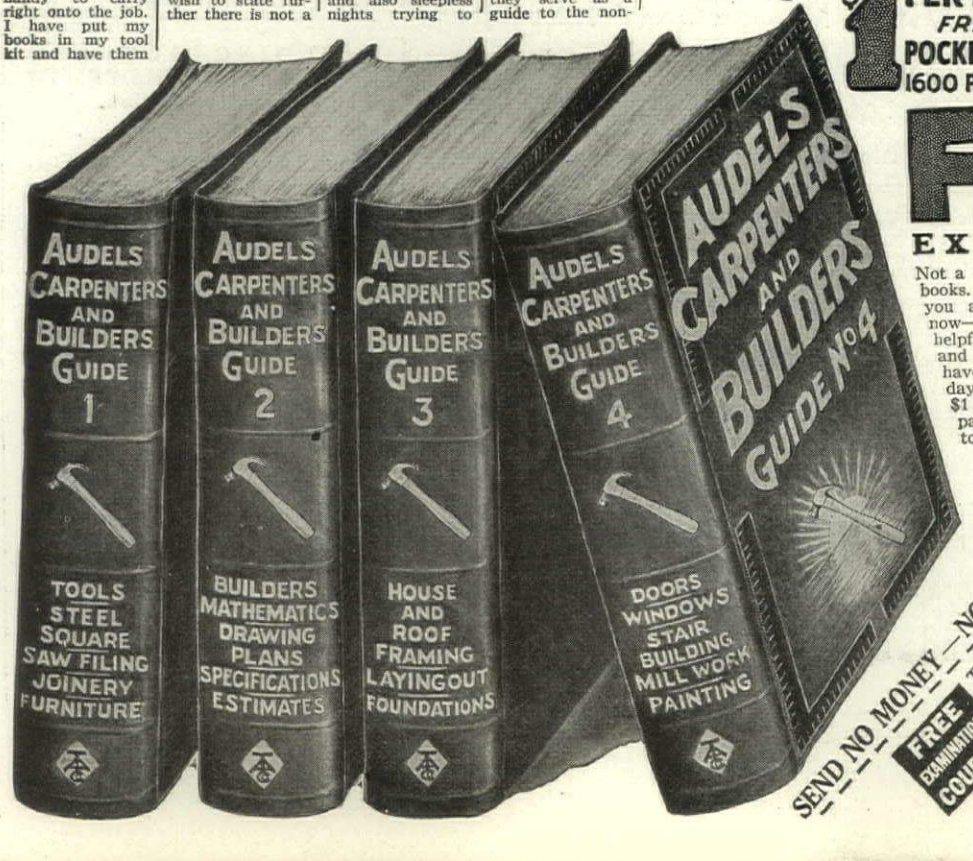
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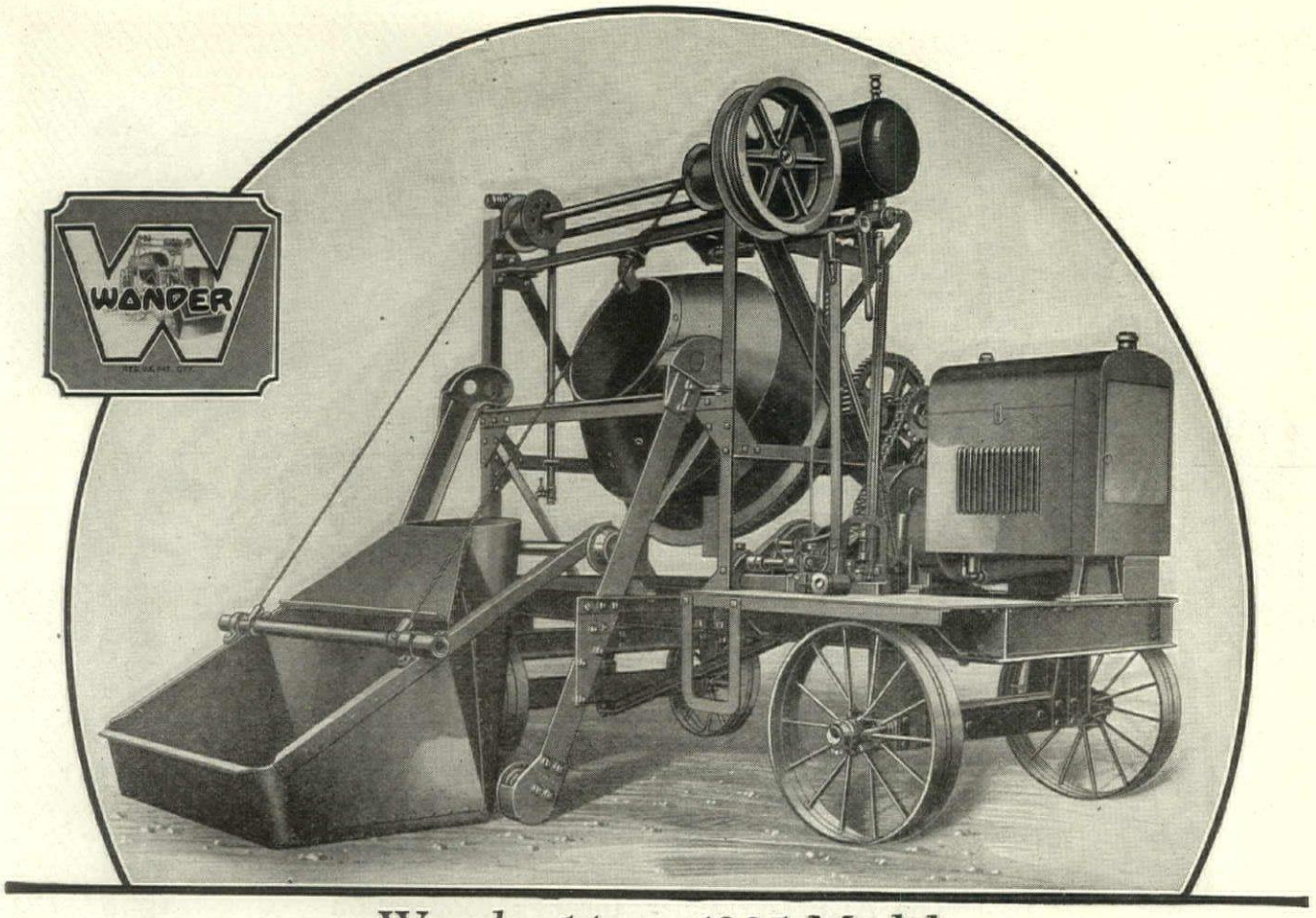
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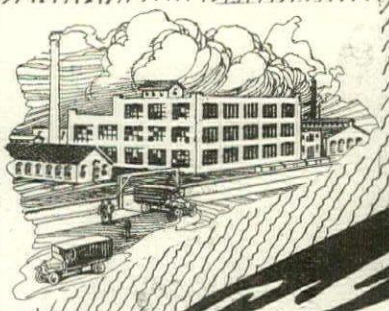
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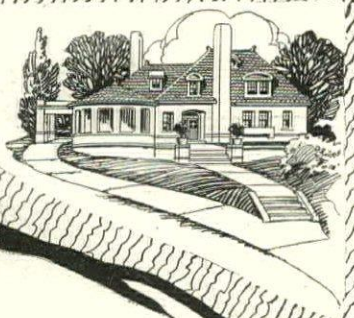
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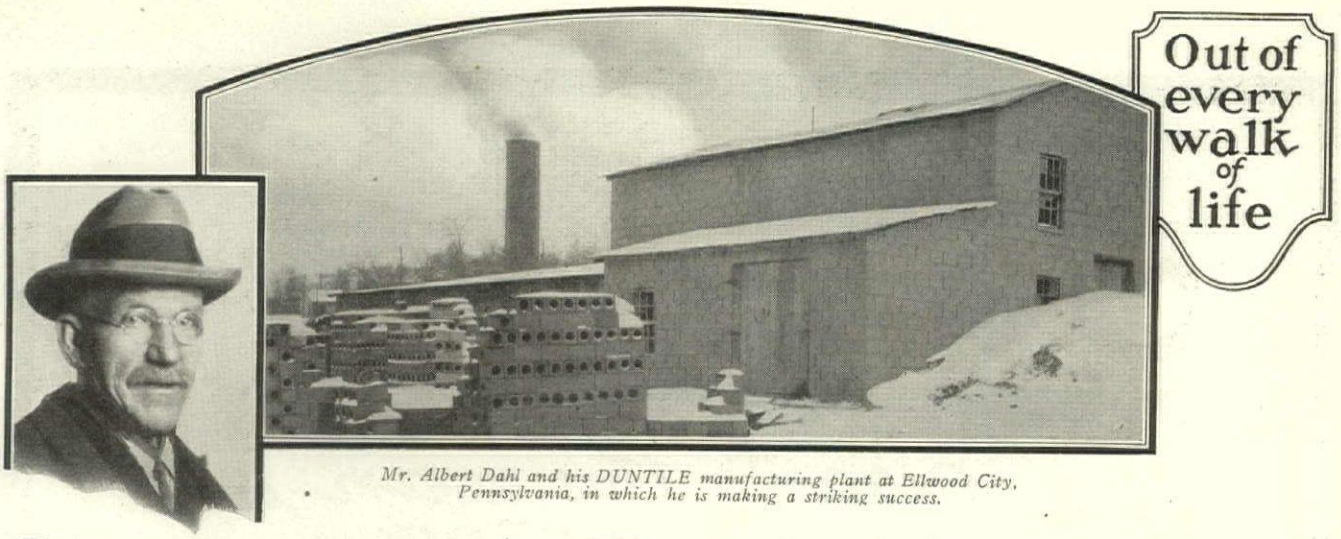
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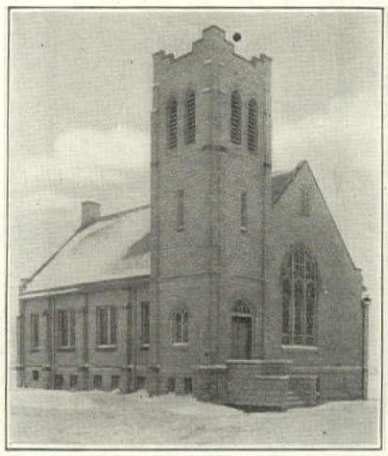
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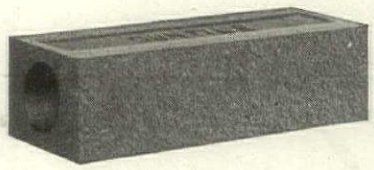
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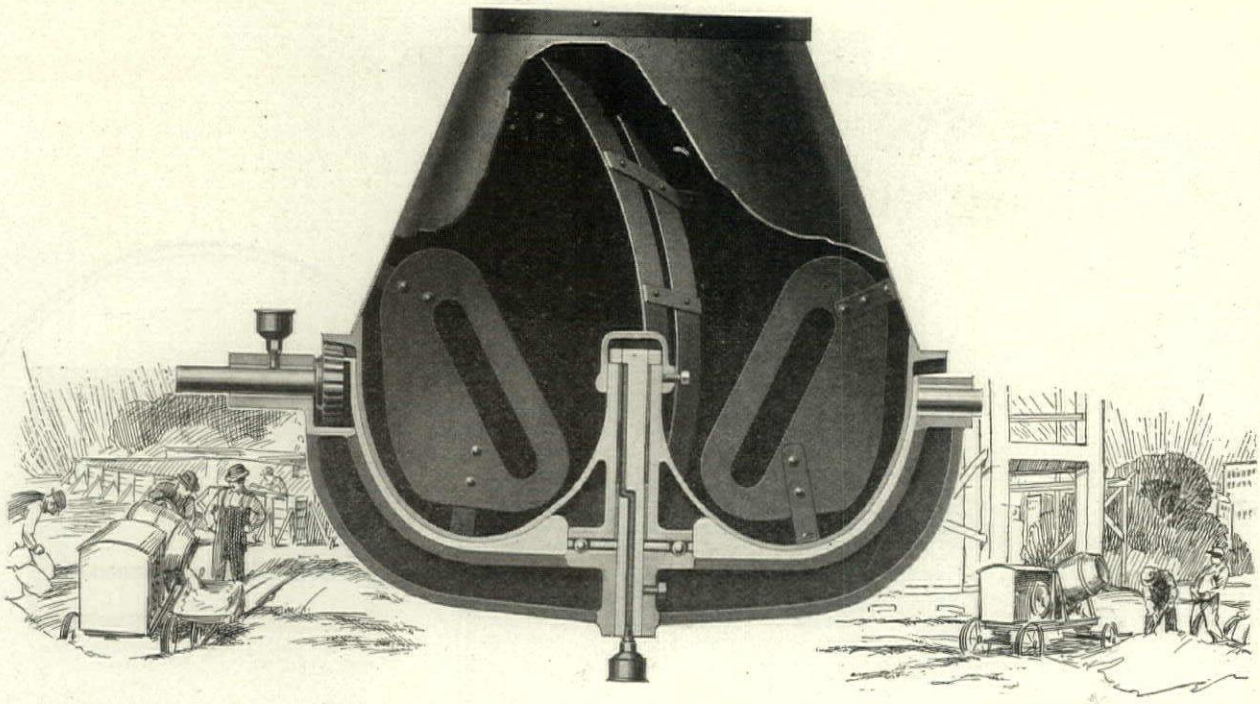
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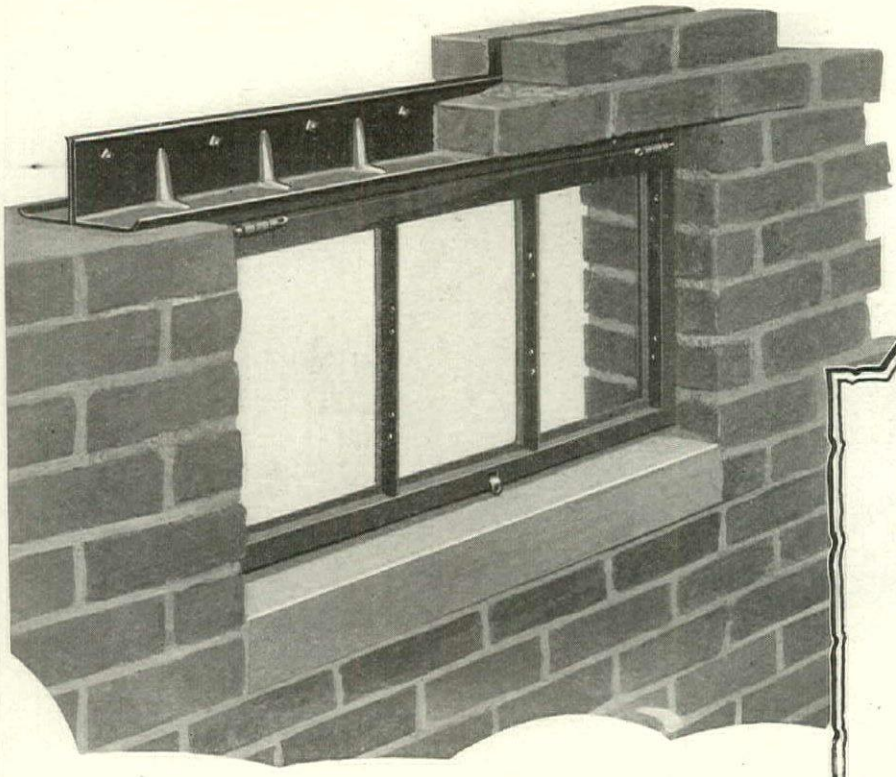
The drum bearing is bronze and is oiled through hollow shaft and is dust-proof and easy running.

The Kwik-Mix Drum can be discharged at a fifty degree angle. A special stop lever holds it in any desired position.

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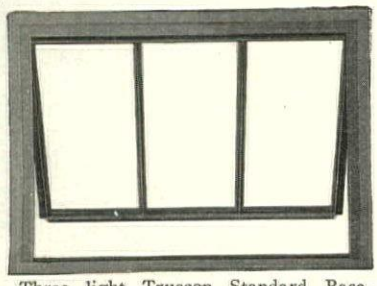
Truscon Basement Windows are powerfully constructed from solid rolled steel sections, have cam-acting lock and double contact weathering which effectively exclude rain, snow and wind. The standardization in three sizes makes for cost economy and facilitates delivery.

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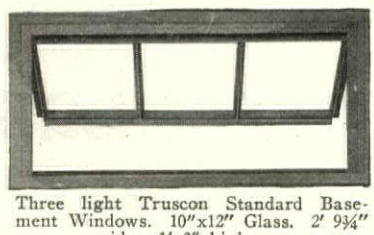
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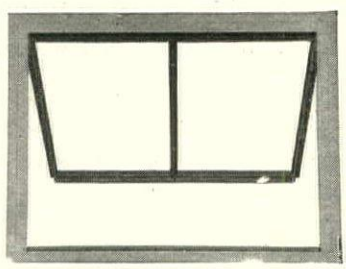
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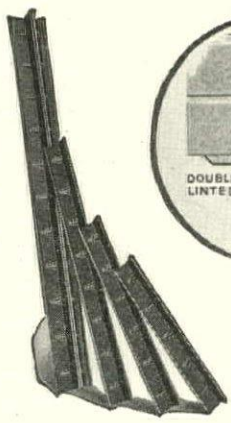
Three light Truscon Standard Basement Windows. 10″x20″ Glass. 2′ 9¾″ wide. 1′ 11″ high.

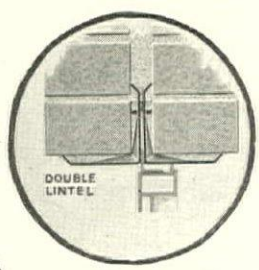


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Truscon Standard Steel Lintels used over all wall openings. Light in weight, unusually strong. Standard lengths: 2′ 6″, 3′ 6″, 4′ 6″, 5′ 6″.

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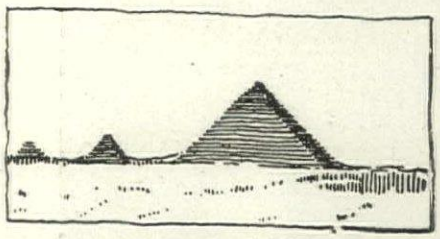
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Building Age and National Builder
With Which is Incorporated
The Permanent Builder and The Builders' Journal
New York, February, 1925

From Building the Pyramids to Building in America



NO one knows how long it took to build the pyramids; certainly it was a long, weary time.

Labor was cheap in those ancient days — cheap and plentiful — for there was an inexhaustible supply.

All said and done, the swarthy engineers and builders made a good job; but they might have made an equally good one, and an infinitely faster, with the aid of modern machinery and equipment.

We live in more enlightened times. Ours is the age of invention, and of men eager to seize upon and apply each new time-saving and accuracy-ensuring device.

Building methods have been completely revolutionized in the last half century, thanks in large part to the remarkable array of equipment that this period has brought forth.

But there are other factors that have contributed to the change. Scarcity of labor, high wages, demands of owners for rapid construction owing to the finances involved —these have played no insignificant roles.

The condition obtaining today in the world of building can be adequately met in only one way—making use of machinery and modern appliances wherever possible. This holds good, not only for the larger construction jobs, but also for many smaller ones.

The time element is very often of paramount importance in present-day building operations, and machinery means time saved—a vital source of economy. Where is the wisdom in having a carpenter take a half hour to saw lumber on the job when a portable machine can easily do the identical job in five minutes?

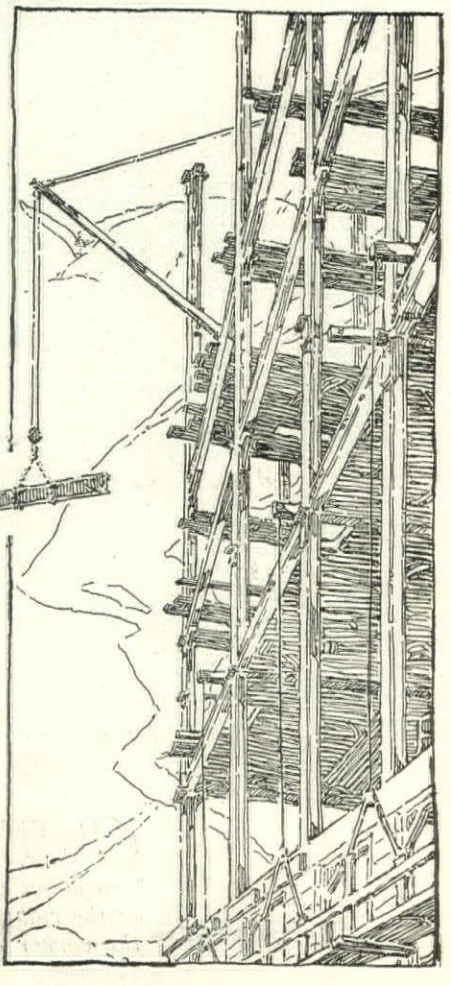
Power is plentiful, cheap, and universally available. Where electricity is easily to be had, this source of power can be used. The portable gasoline engine has numerous advantages to commend it to the enterprising.

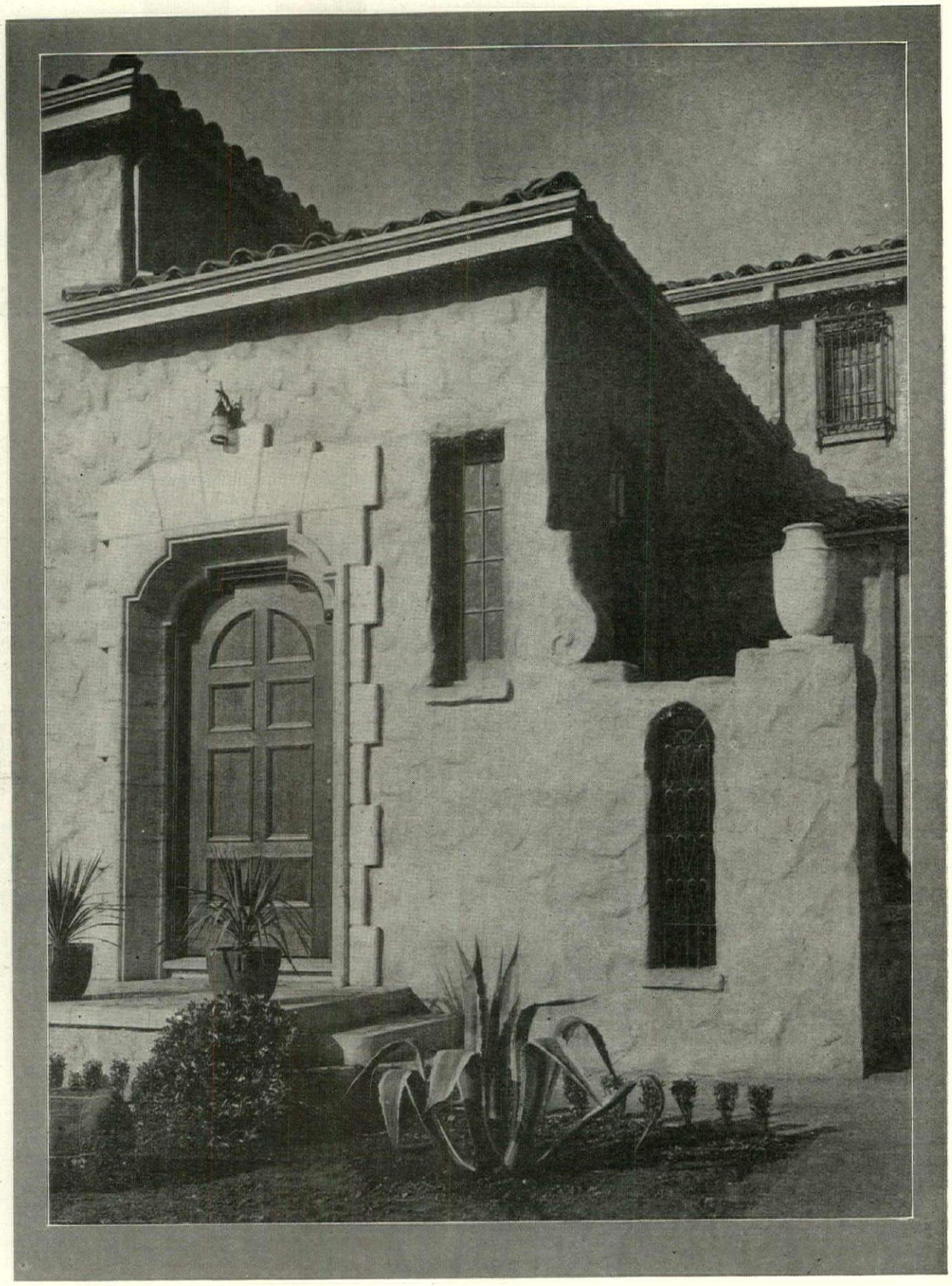
At this season of the year builders should be carefully planning how to take care of work for the next six months at least. That is a form of prudence that pays rich dividends.

GOOD equipment is vital to the builder's success. The man who lacks equipment is sadly handicapped in this age of keen competition and rapid, first-class work. He cannot turn out a job so quickly or so cheaply as his neighbor who is making use of modern equipment. He is attempting to turn back the clock, something that can only be indulged in at a cost, as is only quickly realized.

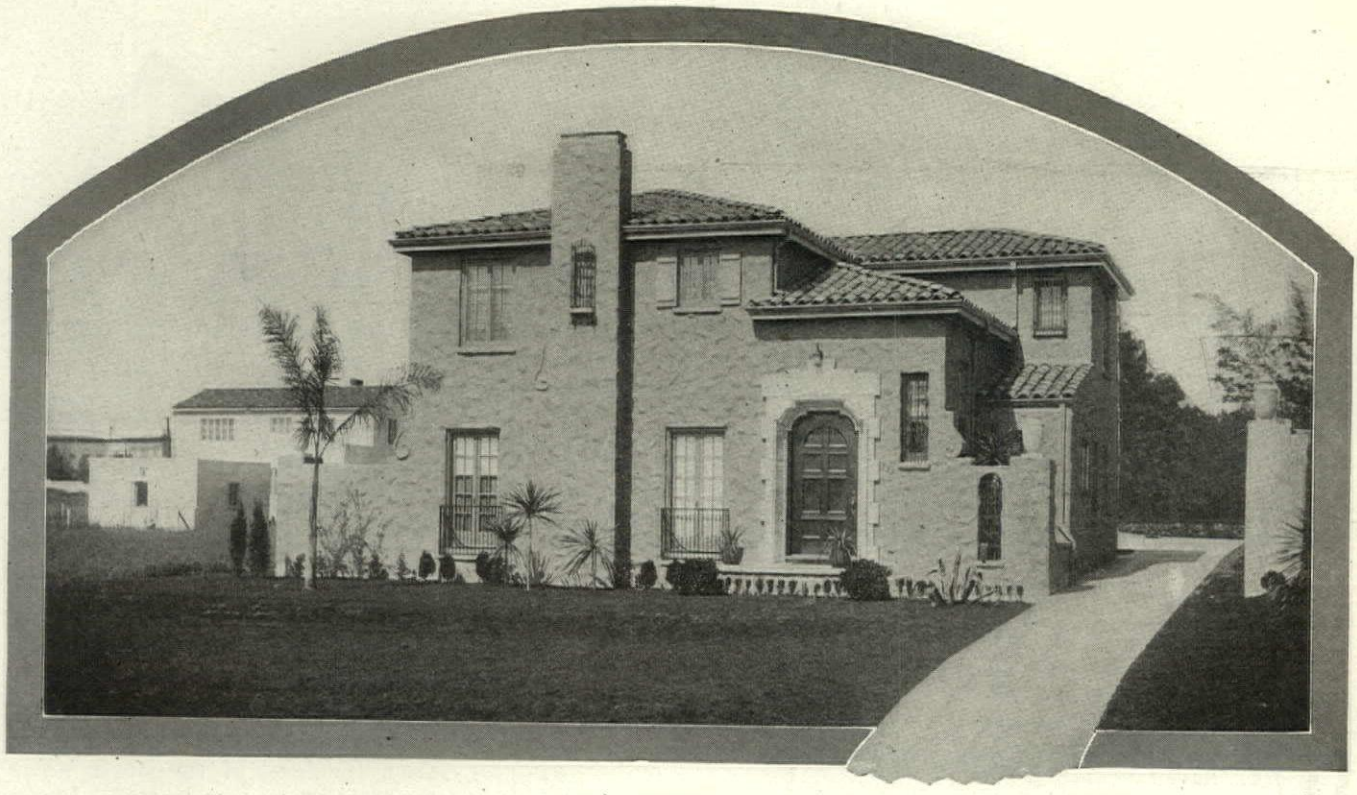
It is false, penny-wise economy to have five men carry a load when one man with a tractor will do twenty times the amount of work. It is silly to have twelve men delivering material when three men and a hoist will do the job better and quicker. There is no use mixing mortar or concrete by hand when there are now small mixers made that are economical to use even on small jobs.

This is essentially the day of equipment, of labor-saving devices. The old times are gone, and to say the truth, no one would really wish them back again. Machinery has come to stay; the wise constructor recognizes and gladly accepts that fact. For these reasons, and because their importance cannot be overstated, we are devoting considerable space in this issue of BUILDING AGE AND NATIONAL BUILDER to the subject of builders' equipment.





CLEVERLY modeled stucco frames this sturdy panelled door. The entrance spells security while the wrought lantern above adds a note of friendly welcome. Through the grille on the right one can take a peep into the tiny patio just around the corner of that charming rough cast wall of Spanish type.



The HOUSE of the MONTH

THE two-story house illustrated here is one of California's newest representations of the Mission style of architecture in residence designing. In roof treatment, wall finish, color scheme and detail handling, its exterior is exceptionally attractive and interesting, and its interior, in arrangement, built-in effects, finish and every other respect, contributes to the making of a home that is most satisfactory and practical, as well as possessed of charming character. The house, in short, is a decidedly distinctive creation.

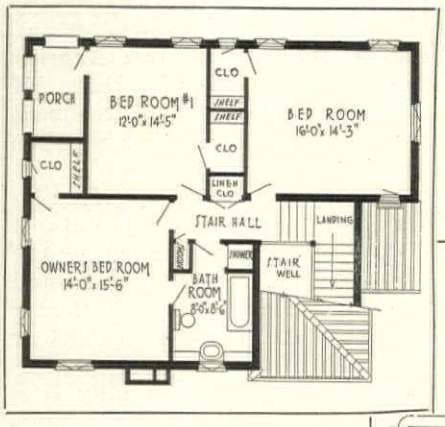
As adding much to the individuality of the house's general outside appearance, a number of features and details, to be studied both from the photographs and floor plans, deserve special attention.

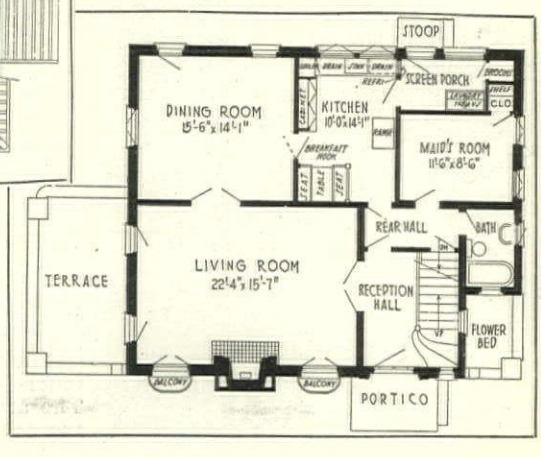
Note the simple but effective designing of the front entrance, with its cement-floored stoop; the tiny walled-in flower garden on the front corner to the right, with its undecorated corner and its interestingly grilled window; the manner in which the roof elevations are improvingly broken by a one-story section over a small first-floor bath room and a somewhat higher section over the reception hall and stairway.

By Charles Alma Byers

Again note the delightful walled-in but unroofed terrace, also paved with cement, that extends from the left end, directly accessible from an end of the living room through two separate doors; the grille treatment of several of the front windows, including a dummy window in the upper part of the chimney, and, lastly, the rough treatment accorded to the walls, which, incidentally, done with the trowel, produces an appearance somewhat suggestive of walls of rough-dressed stone.

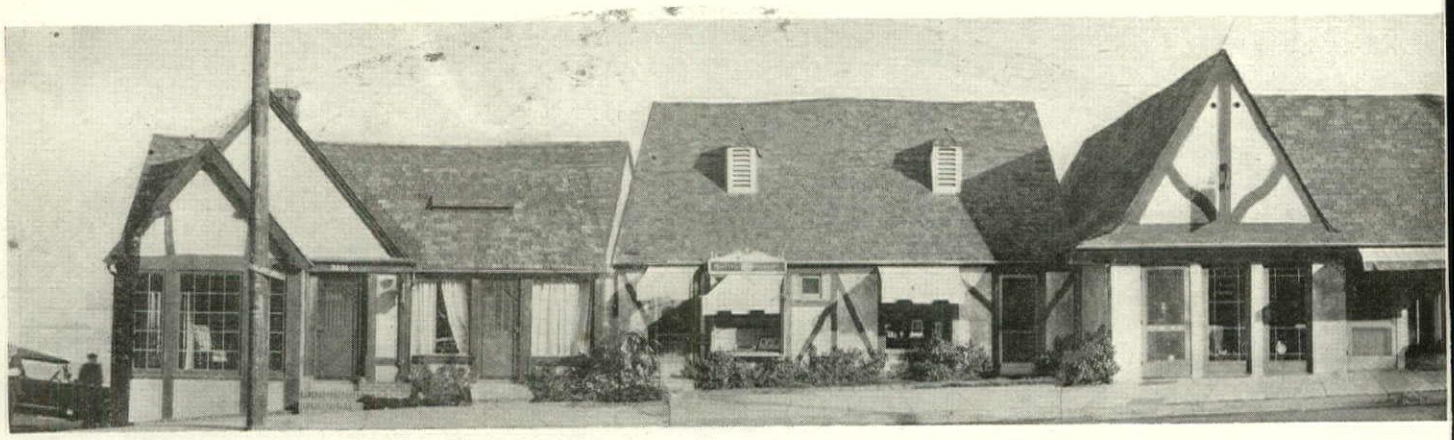
The exterior walls are of cement-stucco over frame construction and are of a light chocolate-brown shade, and the roof is of tile, of variegated colors, with reds, browns and greens predominating. The front door, attractively panelled, is of oak, set in a framing of artificial stone, and the grilles are of black iron. The foundation is concrete; a small basement under the entrance corner is walled and floored with cement.





Spanish Type House

Preston S. Wright
Architect



Unusual Building Development By Clever Planning

By Roy M. Singer

IN my journey to the Pacific Coast I ran across this development in Los Angeles. It is so good that I am presenting it to readers of BUILDING AGE AND NATIONAL BUILDER. *My camera was only able to take a few buildings at each time, but, with a little ingenuity, we were able to make a panorama view. The latter was made up of six photographs, and while not an actual panorama, will give the reader a good idea of how the development looks.*

WE have become somewhat accustomed to hearing about the novel building developments projected in the West, but there always seems to be another one, more interesting than the last.

Why this Western country should be more particular to make its buildings attractive than other regions, is difficult to account for unless it is because of the fact that due to climatic conditions, lighter and less expensive materials may be used in California than in other parts of the country where severe winters are to be encountered.

The project described here is located in a prominent business district in the city of Los Angeles. Pierpont and Walter S. Davis, of Los Angeles, were the architects, and the Garden City Company the owners.

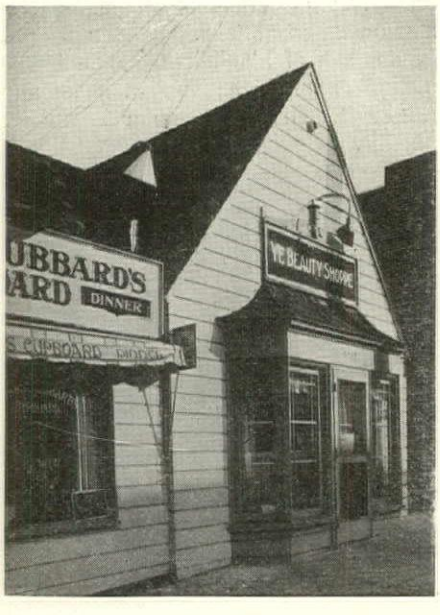
Not only is this group of buildings attractive to the eye but also it is so economically planned to use the maximum amount of ground area without in any way interfering with the comfort of the tenants or the beauty of the design.

There are many such hilly sites and this article gives some pointers how it can be handled to advantage.

The buildings are located on a corner lot, 170 ft. by 150 ft. approximately, and the site slopes down from the level of the street where the store groups are located. It was formerly a swampy tract but it is now converted into a business and dwelling group where tenancies are at a premium.

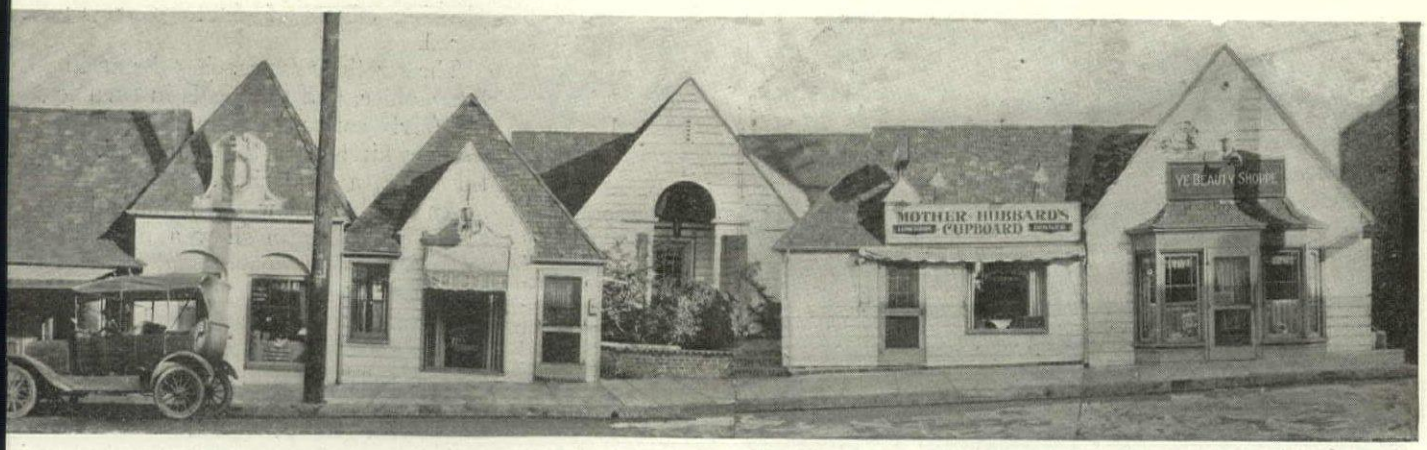
Two distinct groups comprise the development: a store group, and a bungalow court. Due to the sloping site no excavation was required to provide full basements under the stores.

The store group is in two units as shown in the illustrations: one group of the English type, and one of American Colonial. The English style stores are built of frame and covered with stucco, half timbering





Quaint signs and legends give a happy touch to the buildings on the left. The architect's office, on the right, is fronted by a terrace and lily pond

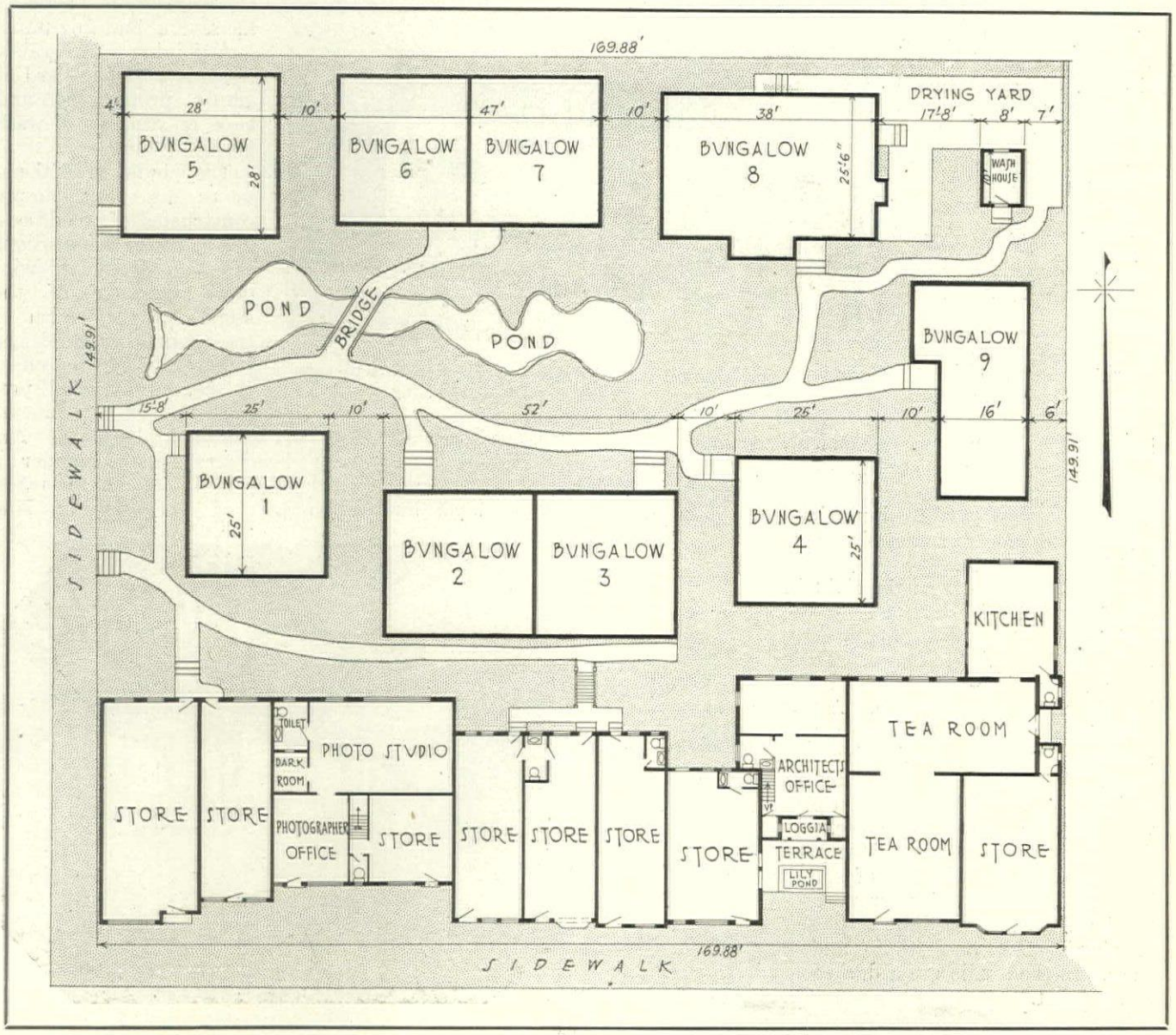


being used to further the English effect.

The Colonial group is finished in wood siding, painted white. The architect's offices are located in the center of this group. Reference to the plan will show the manner in which the stores have been divided.

The bungalow court in the rear of the store group is truly novel. Though this development is located close to the center of the city one may imagine that he is far removed from a metropolitan center by stepping inside the court.

The buildings are extremely simple in design and seem to fit exactly into the atmosphere created by the dense shrubbery growth in the court. There are eight bungalows, and the front elevation and size of each one is different, thus breaking up the monotony of the average bungalow court.





Masses of shrubbery give a rich and colorful background for this simple bungalow. The windows disclose an inviting vista

A glance at the panorama view which heads this article gives an idea of the charming ensemble which greets the passerby. Even the most casual can hardly fail to be struck by the happy combination of architectural styles. The prim Colonial is cunningly set off and relieved by use of the quaint English style, and both harmonize in a most satisfying manner.

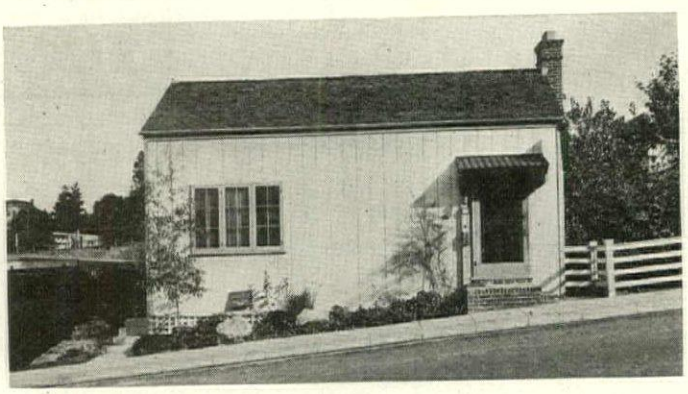
In several instances, the tenants of these toylike structures, aware of the quaint character of the exteriors, have taken full advantage of it. The result has been signs bearing legends old fashioned in wording or in spelling, lending a charming touch to the whole development.

Naturally, many artists have been attracted by the dwellings and their design. In such cases the bungalows serve the double purpose of studios and living quarters.

The third house from the right in the front unit is occupied by the architects of the whole design, Pierpont & Walter S. Davis. Their quarters combine snugness and inviting charm in a high degree. A few steps lead from the street to a terrace set around a diminutive lily pond. A loggia surmounted by an arch gives on to the terrace and provides direct access to the office.

At the left end of the lot the plan shows a different disposal of space. Two stores, both of narrow proportions, are adjoined by a photographer's office and studio and a store. In the studio are a darkroom and a toilet.

Four more stores provide another link in the chain of buildings. It will be noted that this group is brought forward from its neighbors; the buildings are set in alternate units and groups, recessed and set forward in turn. In this way not only is monotony and a generally flat and dull facade avoided, but pleasing effects of shadows are secured.



The sloping character of the site is shown in this picture of a tiny but satisfying little dwelling

The stroller now reaches the architect's office, and this leads in turn to the fairly commodious tearoom, with a large kitchen in the rear, and, on the right, a final shop.

An airplane view of the bungalow court would again show a pleasant arrangement of spaces and masses. The various bungalows are placed with an eye to harmony and fitness in the general scheme. In two instances they are in pairs, but everywhere else a ten-foot space between the dwellings is provided.

A pond of quaint shape, looking the least bit like a strange, bumpy fish, breaks up the main space in delightful fashion. A tiny bridge, besides saving time for dwellers and their guests, is an ornamental touch.

The general arrangement of footpaths is again admirable, avoiding as it does stiffness and giving easy communication between the several building units.

Adjoining Bungalow No. 8 is a drying yard of ample proportions and here is situated a wash house 10′ long.

The buildings themselves are very simply constructed of wood, as a glance at the illustrations shows. Casement windows are one of the secrets of the charm of these miniature buildings, but as a whole the effect is secured by good proportions and harmoniousness of architectural styles. Another clever stroke is the manner in which the architects have taken advantage of the sloping site.



Another pleasant outlook. The light walls of the buildings gain not only color and setting from the trees and shrubbery, but pretty shadow effects as well

Meet a Family of Builders

Duluth Boasts of a Building Organization Composed of a Father and His Four Sons

THE cry is often heard that young men shun the building trades in favor of office work. Here is one family that can laugh at such a charge. A father and four sons in Duluth have joined hands in a building business endeavor and are most decidedly making good. They provide a living example of success won through cooperation and devotion to a common aim. It is an example worth following. After all, apprenticeship in the building line can begin in no better place than right at home.

Told by Philo Brockway

DULUTH, Minnesota, has a unique organization of home builders. It is the only one of its kind in the city, and it is doubtful if there are many like it in the entire country. Certainly there are few similar organizations which function as smoothly and efficiently and with as great a degree of satisfaction to both builder and home buyer.

This organization is known as A. Hedenberg & Company, and is composed of the father and four sons, all deeply interested in the work of building and selling modern, well-built, moderately priced homes.

Each member of the firm—which is the same as saying each member of the family—has charge of a definite division of the work, and each attends strictly to his own job and has full authority over it, which is said to account for the effective, competent and harmonious manner in which their work is carried on.

Andrew Hedenberg, the father, is a carpenter by trade. He started in business for himself on a small scale about 12 years ago, by building two or three houses on a speculative basis. To help finance these he worked at his trade and did odd contract work such as putting in foundations, and paving, sidewalk and sewer work for the city, when carpenter work was slack. He had five sons growing up, who had to be clothed, fed and given an education, and he needed all the money he could make.

When war was declared in 1917, four of the Hedenberg boys, all except the youngest, entered the service. The oldest boy never came back. The four remaining sons are now associated with their father in business.

These boys are George A. W. Hedenberg, Arthur A. Hedenberg, John R. Hedenberg and Phillip Hedenberg.

Andrew Hedenberg, the father, and Arthur personally supervise all construction work. George is in charge of the office and transacts all business, having authority to sign checks, contracts, deeds and all papers for the firm. John is superintendent of the company's cement block factory, while Phillip, the youngest boy, is office assistant.

The business is growing and expanding and the company is now formulating next season's program, which includes the building of at least 50 houses.

Nearly six years ago, very shortly after the signing of the armistice, when George Hedenberg returned from the service, he needed a job. Building had been practically at a standstill during the war and many homes were needed. Duluth was growing and George Hedenberg foresaw that construction work was going to be a good business. Besides, his father needed his help, so they entered into a partnership and began by building six houses the first year, on a speculative basis. To help finance these operations, they did miscellaneous contracting work, including cement work and foundations.

These houses were well built and sold readily. As the brothers returned, they entered the business and more houses were built. The Hedenbergs realized the value of sound construction and square business methods. The Hedenberg houses were good houses and people began to talk about them. Prospective home owners began coming to the Hedenbergs when they wanted a house built, and the company would agree to build it on contract. They continued to build houses for speculation, and for the last three years their business has been about equally divided between building on a speculative basis and building on contract for others.

The methods employed by the Hedenberg company insure the highest grade of construction at a

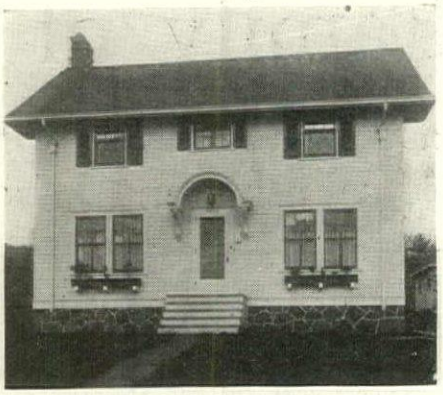


Andrew Hedenberg (center) and his four sons. From left to right: Arthur, Phillip, John and George Hedenberg

minimum cost. They sublet no contracts, but build all their houses complete with day labor under their own personal supervision. They hire all their help, including carpenters, masons, plasterers and painters at day wages, so there is no incentive to skimp a job, rush it through or use inferior materials. The company buys all its materials at wholesale prices in large quantities, including building hardware in bulk lots.

The Hedenbergs maintain and operate a cement block plant in Duluth, known as the Lakeside Cement Works, where they manufacture a sufficient quantity of cement blocks to take care of their own construction work and to fill an increasing demand in the market. The company has two trucks with which they do their own hauling, and three cars which they use in general supervision work. The organization is complete to the last detail. They are not dependent on anyone else for the completion of a job, they themselves being solely responsible, so when they undertake the construction of a house they know that it will be finished on schedule time.

More than 90 per cent. of the homes built by the Hedenberg company on a speculative basis are sold before they are completed. Of the 28 houses constructed this year, all except one are sold, and many inquiries concerning that one have been received, although it is not far enough along to be shown and has not been advertised.



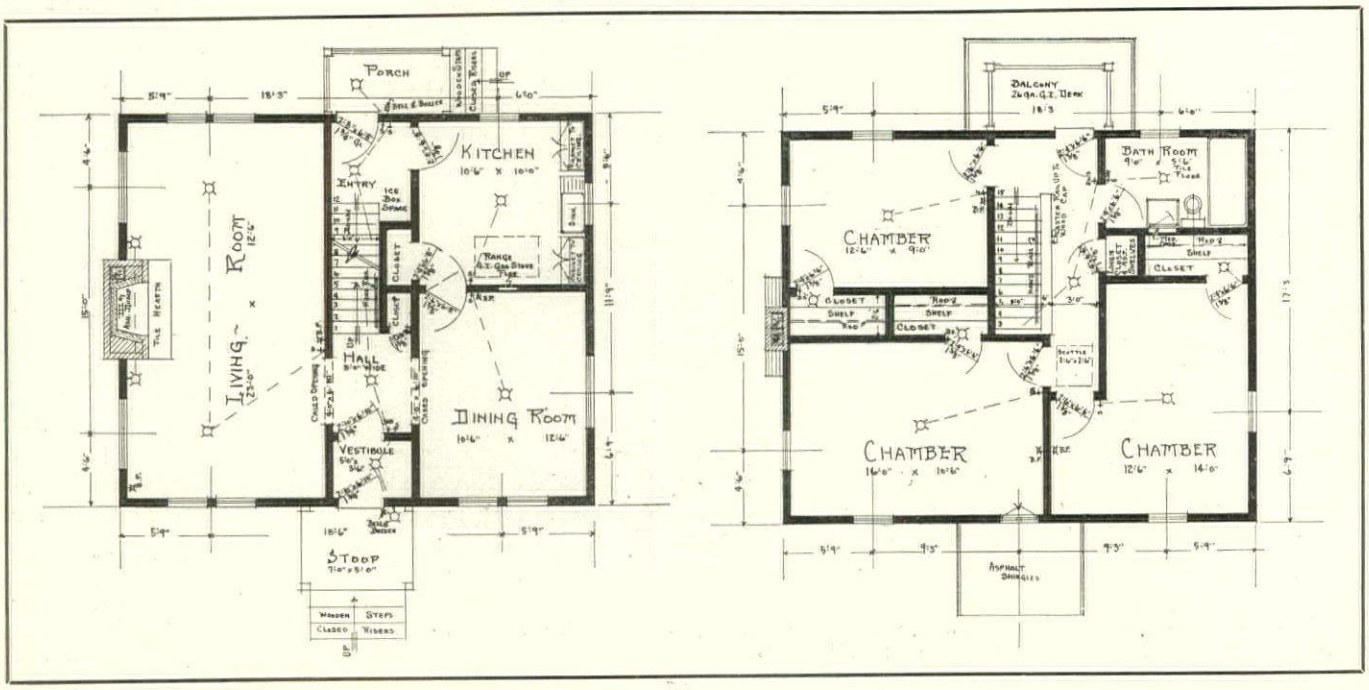
When the Hedenbergs organized the business, they resolved to make home building their life's work. They are in the business to stay and therefore they realize the need of building for permanency and the value of good will to their business. They have waged a continuous warfare against shoddy construction and the use of inferior materials. The houses they have built have proved their worth. They have stood the test of time and have shown that good materials and sound construction are the best creators of good will in the world.

One of the chief problems in quantity house production is to secure variety of style and effect in the exteriors while using the same general floor plan for each. This problem has been ingeniously solved by the Hedenberg company, as will be seen from an inspection of the pictures of typical Hedenberg houses accompanying this article. The floor plans are identical in almost every case, locations of windows and doors being the same. Contrast is secured by the treatment of porches, entrances and hoods, and by the use of different materials. Thus one of the houses is all stucco, one shingle, another clapboard and stucco, and still another all clapboard. The resulting effect is that while a certain unity is preserved, thanks to general similarity of proportions and openings, ample variety is assured by variation of details and building materials.

Above is seen a typical Hedenberg-built house, one of 28 new homes recently built by this company in Duluth. Plans show the compact arrangement of the six rooms

These builders have made a special study of insulation, which is an important factor in home construction in this northern climate, and their houses are easy to heat. They insulate not only the inside and outside walls thoroughly, but the ceilings as well. Reducing fuel bills, they have found, makes satisfied customers and gives the purchaser a better opportunity to pay for his home.

The Hedenberg company does some display advertising in the newspapers. This is mostly in the form of showing cuts and giving descriptions of homes they have built, in order to keep their name and work before the public, but their most profitable publicity has been word-of-mouth advertising by people who have purchased and are enjoying the comforts and satisfaction of Hedenberg-built homes. These people pass along to their friends



the desirable qualities of their new houses.

A sign on a house, "Built by A. Hedenberg & Company," usually gets results. The name Hedenberg means much the same to Duluth home buyers as the Sterling mark on silver. The company now figures the good will of the public as a tangible asset, worth at least half the value of their business, according to George Hedenberg, business manager.

Another of the activities carried on by A. Hedenberg & Company is that of real estate brokerage business, which they have found fits in admirably with their construction work. When the Hedenbergs began to build on contract, they found that many of their clients who were having new homes constructed, had old homes to dispose of. The company sells these old homes on commission or takes the owners' equity to apply on the purchase of the new house.

In order to carry on this end of the business successfully, the firm maintains a membership in the Duluth Board of Realtors, and employs as sales representative, Mr. A. M. Johnson, a real estate salesman with 10 years' experience in Duluth. The company now sells about as many old houses as it builds new ones. They have quite an extensive listing and many clients who desire a home but who cannot afford to purchase a new one.

The Hedenberg company finance all their construction work to completion. About 20 per cent. of purchasers pay all cash above the mortgage, the remaining 80 per cent. being financed by the company. The firm usually demands 20 per cent. of the value of the property as a down payment. They take a contract for deed for approximately 30 per cent., and place a first mortgage on the property for the balance. When the purchaser has paid up the contract for deed in small monthly payments which include all interest, charged at the rate of 6 per cent., he gets title to the property, and may have the mortgage renewed or pay it in part or wholly as he desires or his circumstances will permit.

Mortgages are usually placed for five years, which gives the buyer time to pay up the contract. The company has never had a loss on a contract or sale. All the business of the firm, including financing, buying, selling, contracting, mortgages, loans and insurance, is done in their own offices which are conveniently located in a downtown building. They design all the houses first and then turn them over to an architect to have the plans drawn. The company finds it necessary to do very little soliciting, as most of the work comes to them. Their business is increasing at the rate of about 30 per cent. a year.

The Hedenberg boys are up-to-date. They are constantly studying advanced building methods and they keep abreast of the times in all matters pertaining to construction work. When the writer called at their offices for this interview, he found the latest copies of BUILDING AGE AND NATIONAL BUILDER on George Hedenberg's desk.

"We are in the business to stay," Mr. Hedenberg declared, "and therefore we must build houses that will last and will be satisfactory in years to come. We build not alone for architectural beauty and design, but for comfort and convenience, utility and permanence."

Duluth is maintaining a steady growth. With the construction of the proposed deep waterway to the sea, it is expected that the city will grow rapidly. Farsighted business men are now building a modern hotel of 13 stories, to contain 500 rooms and to cost $1,700,000, to accommodate the traveling public. Many additional homes will be needed to house the permanent population.

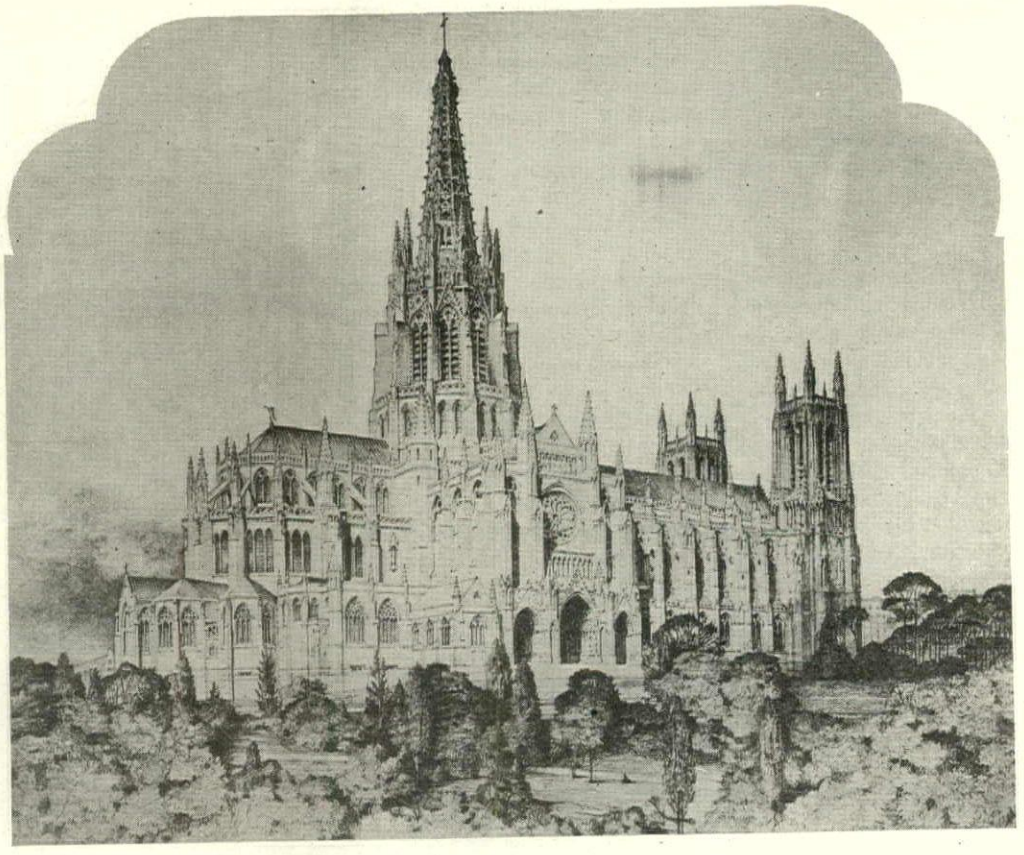


Variety with unity. These houses were recently built by A. Hedenberg & Co. in Duluth. Floor plans are similar, but contrast is secured by use of varied exterior design and materials

The Hedenberg company are well equipped to build many of these needed houses, and it is safe to say that they will be among the foremost in the field in the future upbuilding and development of Duluth. The boys have no outside interests and devote all their time to the business. None of the boys are married and all live at home with their parents.

"We are married to our work," says George Hedenberg, with a smile.

Their industry, integrity, perseverance and attention to detail are already bringing a large measure of success to them in their chosen profession. And, too, the fact that they work together as a unit—one for all, all for one.



Building a Great Cathedral for America

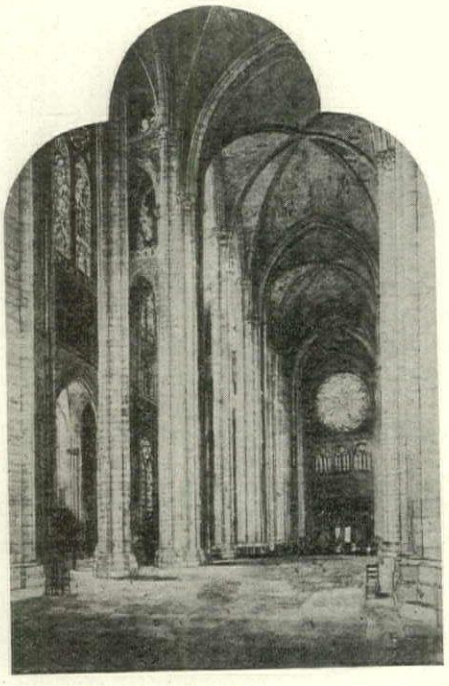
French Gothic Style for St. John the Divine's

ON the banks of a river in oldest Paris stands, erect, rugged, sombre, the jewel of France: Notre Dame.

Within earshot of grave Big Ben, in ancient London, stands, mellow and serene, Westminster Abbey.

Rising proudly and with majesty from the eminences of Morningside Heights in young New York is growing an American Cathedral: St. John the Divine.

Men who watch the patient creation of master-works rarely sense the greatness of what is transpiring before their eyes. Few, perhaps, who passed by the embryo Notre Dame, or Amiens, or Mont St. Michel, or Cologne, in a bygone day paused to ponder on the feelings that these heaped stones were destined to inspire. They were too near greatness—both in time and space—and could not see it.



THE contract for building the Nave of St. John's was let on January 28 to Jacobs & Youngs, of New York. It will cost $5,900,000 and take four years to build. Ralph Adams Cram, of New York, is the architect.

A mighty cathedral is building in New York—has been building these 35 years. But today it no longer takes centuries for the realization of a grand architectural conception. Not all those 35 years have been devoted to the actual building of St. John's, or rather to the fragment thus far erected.

The project has long been quiescent, owing to lack of funds, and only with the dawn of the New Year has a nation-wide appeal gone forth to people of all creeds and races to complete the work first dreamed of a century back and begun in the nineties. The total cost will be $15,000,000, and at the time of writing, funds were pouring in from every side, from rich and poor alike, at a

rate to assure the raising of the required total.

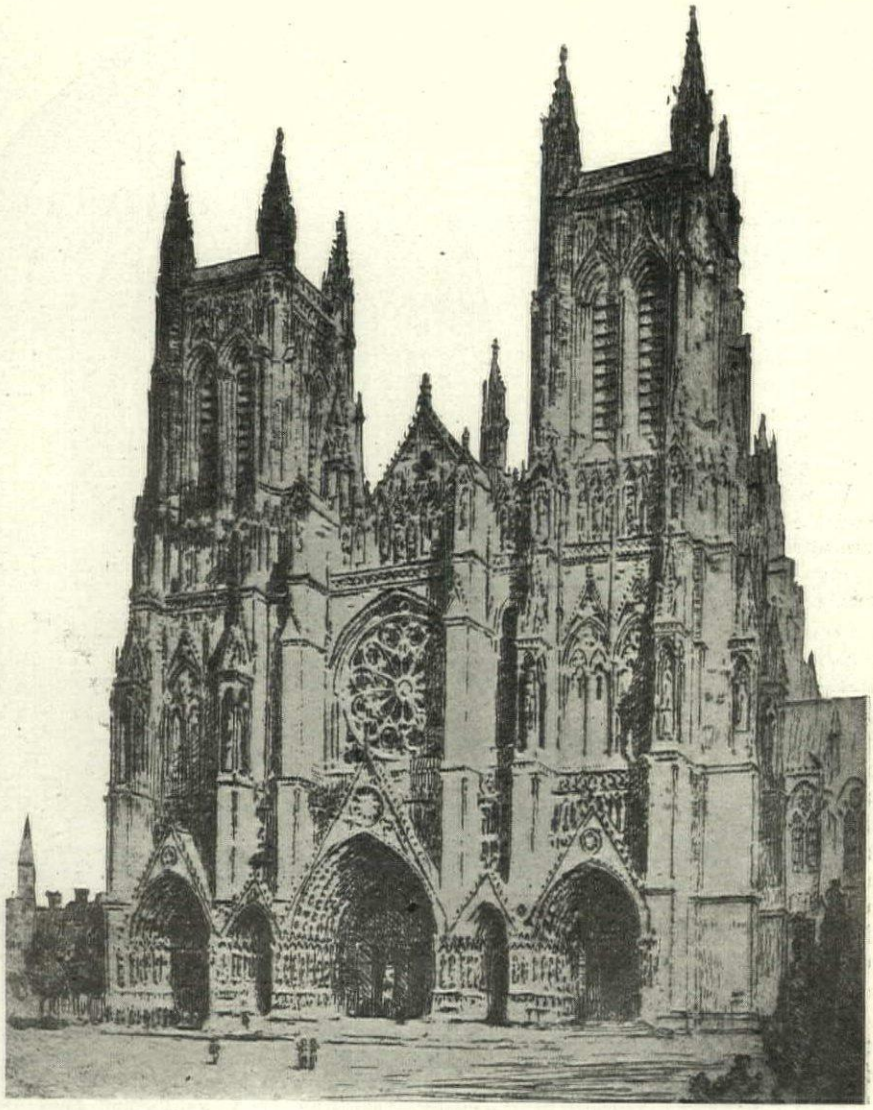
St. John's first began to take shape—at least on paper—in the late eighties, when a competition was held for a design. In 1889 sixty designs were received, and in July, 1891, the designs submitted by George L. Heins and C. Grant La Farge were accepted.

Many other noted architects have contributed to the planning of the complete conception. Today the architect is that American master of the Gothic, Ralph Adams Cram.

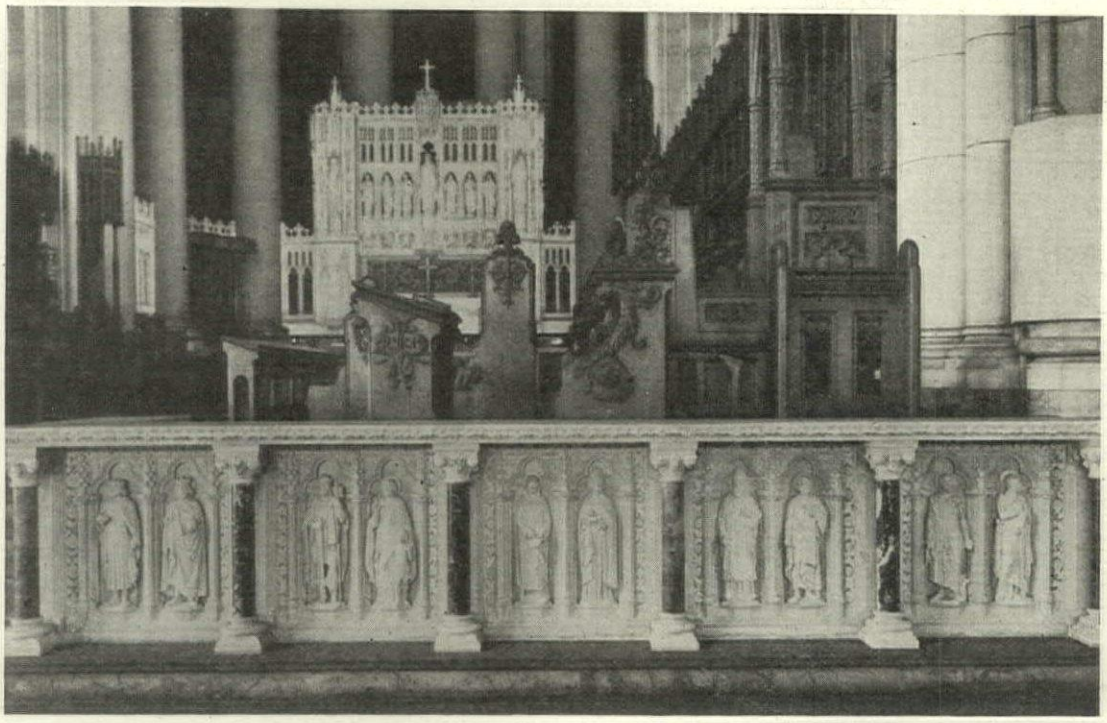
The actual construction was begun in 1891, and on December 27, 1892, St. John's day, the cornerstone was laid. Now, 32 years later, all America is gladly responding to the summons for money to complete a great cathedral.

Heins & La Farge were in charge of the project from July, 1891, until the death of Mr. Heins in 1907. Mr. La Farge remained as the architect until the completion of the Choir, in 1911. Among the other firms consulted have been Cook & Welch, Warren & Wetmore, and Howells & Stokes, while the seven chapels built round the Choir and Sanctuary are the designs of Carrere & Hastings, Cram & Ferguson, Heins & La Farge, and Henry Vaughan.

Today the Cathedral lacks Nave and Transepts. But in addition to the creation of these, the present architect's task embraces the remodeling of the Choir to harmonize with the French Gothic style used throughout the cathedral.



Etching of proposed western facade of St. John's



THE superb high altar is constructed of white marble enriched by a wealth of appropriate detail and surrounded by beautiful wood carving. In the rear may be seen the giant granite shafts of the Sanctuary.

A brief study of the accompanying illustrations reveals the magnitude of this single task. The eight huge granite columns of the Sanctuary, and the arches surmounting them, are strongly permeated by Byzantine influence. Above the arches is seen the present false ceiling of clay tile. The new design retains the columns, but substitutes for Byzantine arches true Gothic examples. Above these a row of Gothic windows raises itself and melts into the groined ceiling.

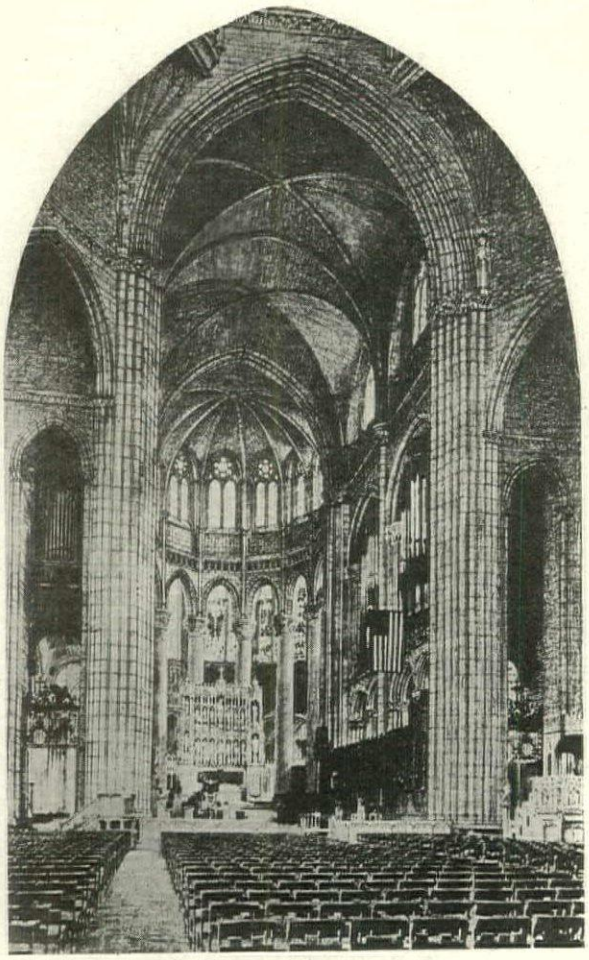
Viewing the exterior, the result is seen to be an extra windowed story, flanked by flying buttresses, and a shallower roof than that of the present structure, somewhat recalling, in its slender grace and "feeling," Notre Dame de Paris.

Thus, the whole style of the contemplated edifice will be harmonious and pure Gothic throughout. It is an intricate and delicate piece of remodeling that the present architect has undertaken, but one that was felt to be necessary to the style and proportions of the whole scheme.

The eight mammoth columns of the Sanctuary are rivalled in size only by those of St. Isaac's Cathedral, Petrograd. These shafts of Maine granite were quarried as monoliths and were turned on a special lathe costing $50,000 to build. In the polishing the first two monoliths broke, and permission was given the contractor to make the columns in two pieces. Each column is 60 ft. high and 6 ft. diameter, and weighs 130 tons—the lower stone, 40 ft. high, weighing 90; the upper, 20 ft. high, 40 tons.

The Cathedral of St. John the Divine will be the third largest in the world, exceeded in size only by St. Peter's in Rome and the Cathedral of Seville, Spain. None of the famous English cathedrals approaches it in area. Notre Dame de Paris has an area of 64,000 square feet; Chartres, 68,000; Rheims, 69,000; Amiens (largest in France), 71,000. St. John's, with an area of nearly 110,000 square feet, will be almost as large as Rheims and Notre Dame combined. When the Nave and Transepts are completed the church will seat 7,000 and will accommodate several thousand more standing.

The portion thus far constructed has cost about $4,000,000. The Nave will cost $5,900,000, and the total cost will be about $15,000,000. The contract for building the nave has been awarded.



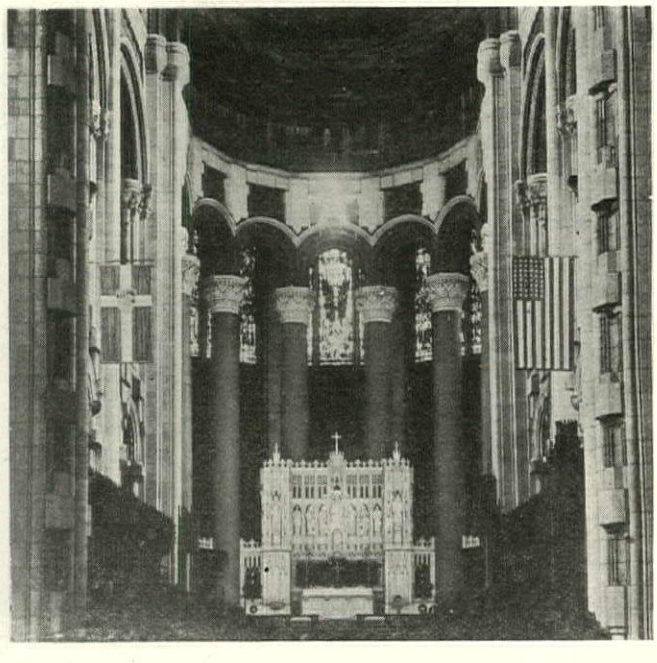
REMODELING OF THE CHOIR

Architect's drawing shows proposed remodeling of Choir. The style will be pure French Gothic. An extra windowed story melts into the groined ceiling, resulting in a shallower roof than the present one as shown on two pictures below

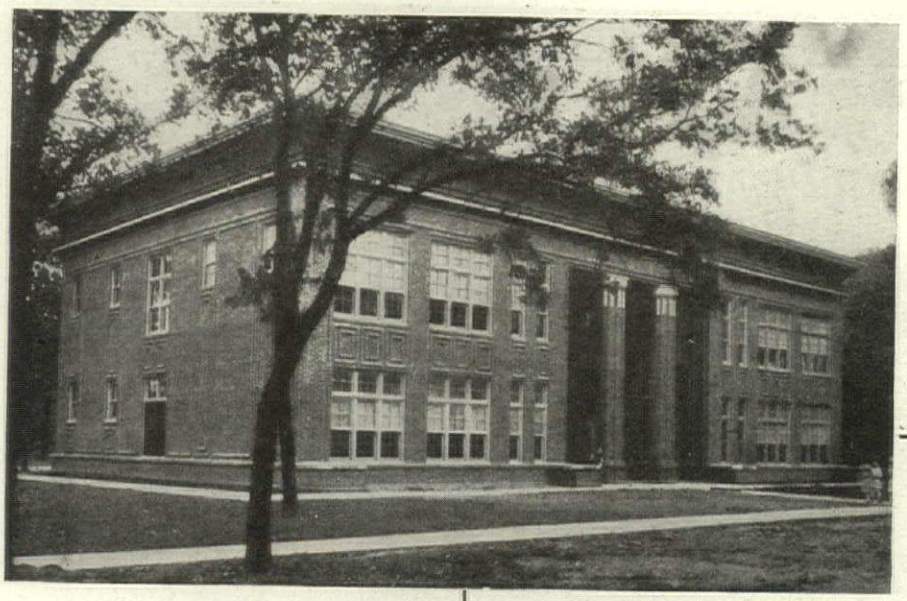
Choir and Chapels seen from the east. Set on an eminence and facing Morningside Park, the cathedral has an incomparable point of vantage



The Sanctuary as it looks today. The eight giant columns are surmounted by Byzantine arches; these will be transformed into French Gothic



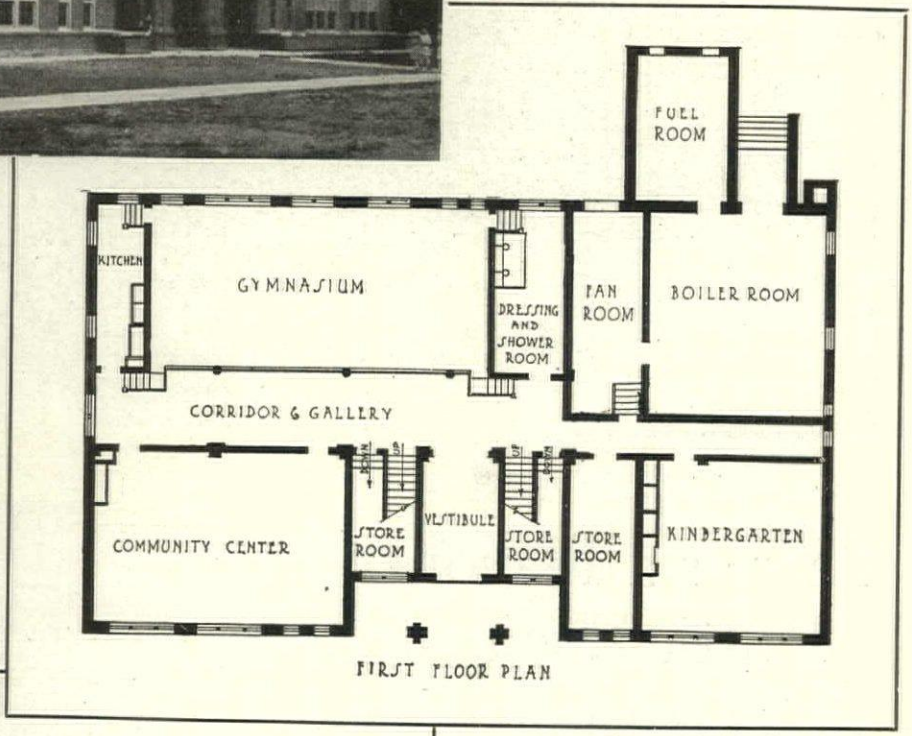
Many Schools to Be Erected In 1925

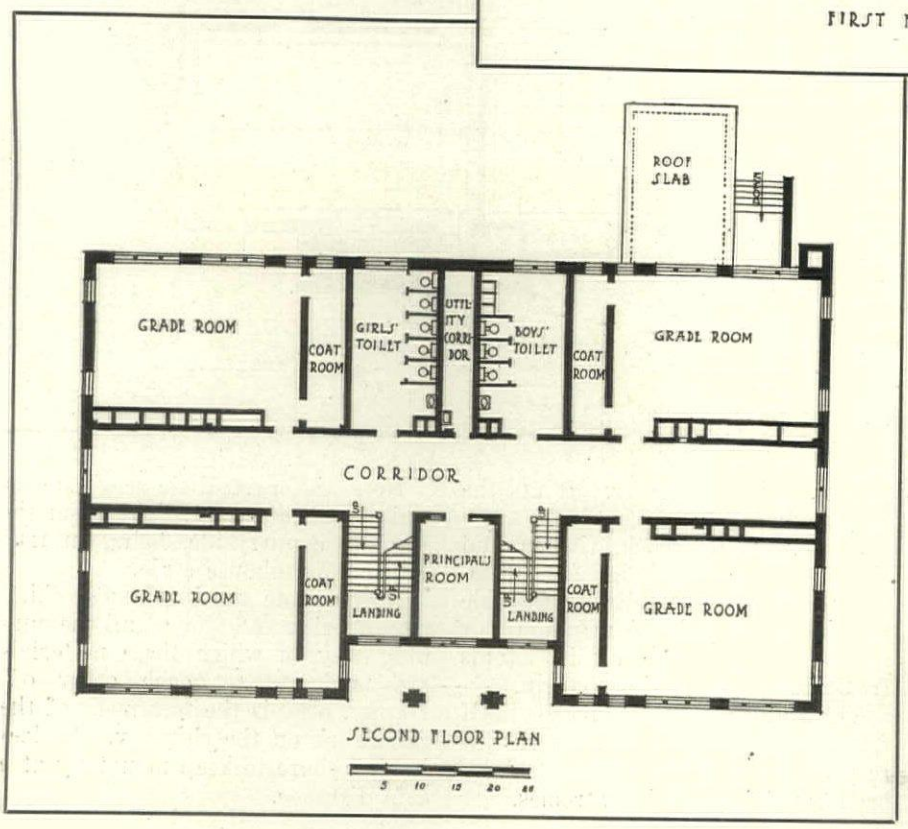


THE year 1925 will be particularly noteworthy for the volume of new school construction which it will witness in the United States.

Conservative estimates show that during the present year no less than 15 per cent of the total estimated sum — $5,000,000,000 — to be expended for construction, will be for the construction of schools and for school equipment. This makes upwards of $750,000,000 which will be expended in this one direction.

It must be remembered that school construction follows population.



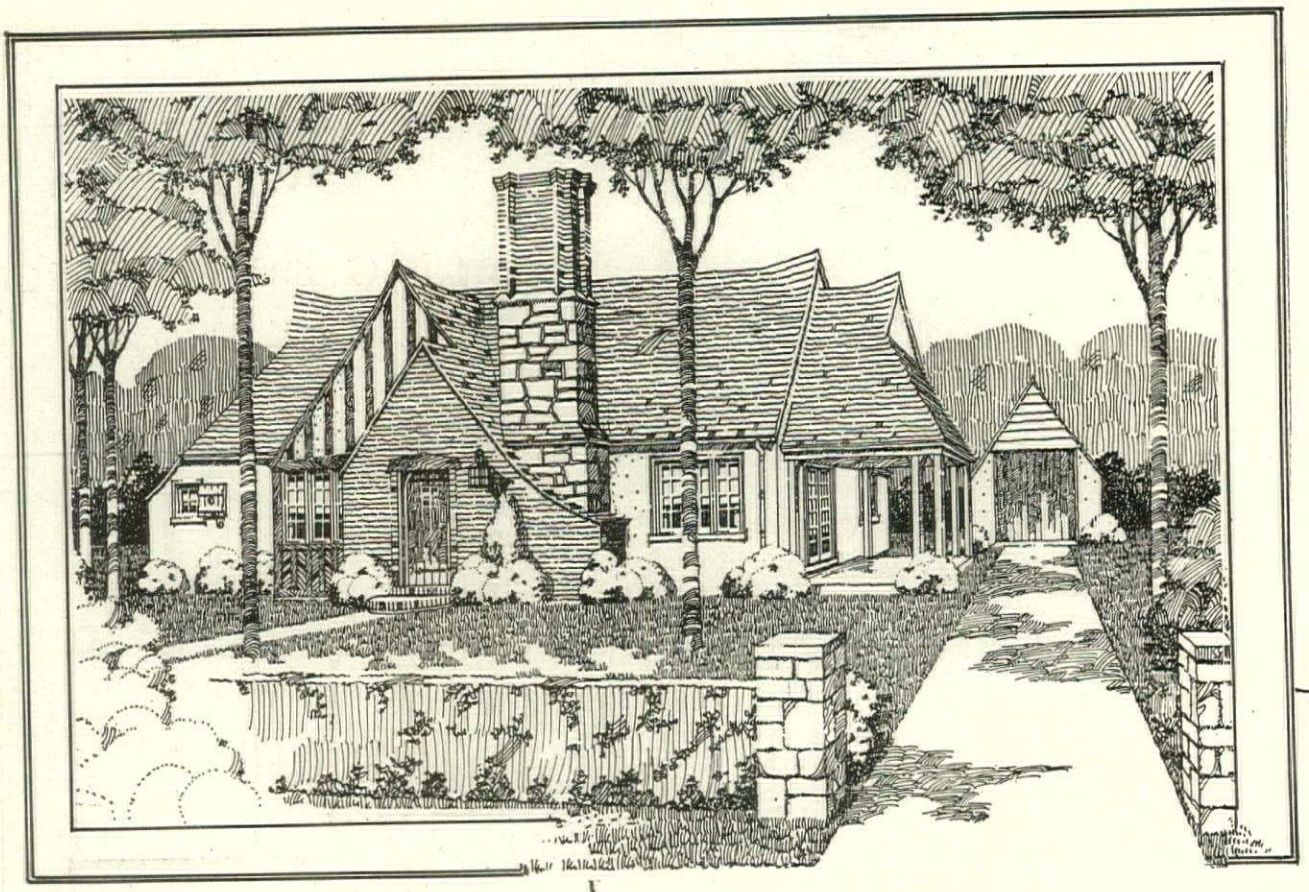


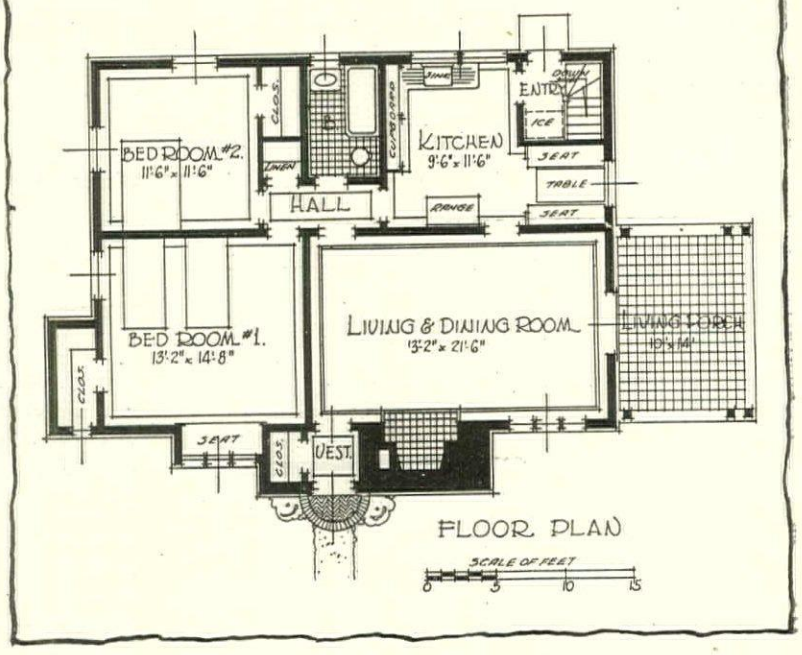
Wherever there has been a building boom and a large number of residences erected, it follows that provision must be made for the wants of these people. Stores, churches, theatres and schools follow as a natural result. The millions of homes that have been erected in the last few years in localities that were practically farm lands must be supplied with schools.

Therefore, builders who are making a specialty of this form of construction will be assured of considerable work of this nature.

The school pictured on this page is an interesting example of a school building adapted for the less thickly settled community. The symetrically arranged floor plans result in a simple but pleasing exterior which derives appeal and interest in part from the character of its brickwork.

It is the Round Prairie Grade School, Fort Dodge, Iowa, and was designed by Damon & O'Meara.





There's a Flavor of Rustic England in This Bungalow

Designed Specially for Building Age and National Builder

By R. C. Hunter & Brother Architects

NOT sketched in a Devonshire lane or Surrey byway (although it might very well have been), but a unique and thoroughly winning little American conception is the bungalow pictured above.

This cozy house has an unmistakable flavor of rustic England in its details and general lines. Low broadness persuades the passerby that the bungalow has, as it were, "grown" in its setting. It fits the latter admirably.

Stone, stucco, brick, timber and shingles are so delightfully employed that the resulting ensemble has no suggestion of monotony or the commonplace; yet it avoids freakishness by a wide margin.

The English influence makes itself felt in numerous details, but in this respect, as well, the architects have been careful to avoid extremes.

Note the pert little roof ridges. This touch comes straight from the English countryside, being in true English farmhouse style.

Again, note the big honest chimney of brick and stone, and the cunning way in which these materials are made to set each other off. Happy, also, is the treatment of the brickwork on the chimney. It does its full share to keep monotony at a safe distance.

The half timber work is another characteristic English ingredient, and one which lends a homelike appearance to the house.

Stucco sides, brick vestibule gable, sturdy door of solid sticks, iron hinges, lantern and hardware—all contribute something individual and inviting to the design as a whole.

WORTHY of admiration is the broad, free sweep of the classic vestibule gable roof, contrasting well with the lines of its neighbor on the left, just as its wall surface of brick shows up splendidly alongside that of stucco and half timber. The semi-circular step leading to the vestibule harmonizes neatly with the brick vestibule gable.

Comfort and dignity are both suggested by the generous chimney, and, as will be seen from a glance at the plan, it provides the living room with a huge fireplace in which the logs can blaze merrily in the winter time.

The roof is composed of variegated shingles of asbestos or slate, wood or asphalt. The variegation makes for a pretty play of restrained color.

The garage in the rear is of the simplest, yet, despite its modesty, manages to add a note consonant with the rest of the ensemble.

In addition to the delectable exterior, the house is well planned within. In fact, it is an object lesson in careful and compact planning. Note how space has been conserved wherever possible. The hall dimensions are reduced to a minimum, yet the hall is so planned and arranged that it gives ample room and convenient access to every chamber.

BLUE Print Plans, Specifications and Cardboard Models of many Beautiful Homes of Moderate Cost can be supplied at a nominal price by BUILDING AGE AND NATIONAL BUILDER, *239 West 39th Street, New York.*

The perspective section shows the bungalow ready for occupation and gives a good idea of the space available for furniture.

THE gate leg table makes it possible instantly to transform the dining room into a very spacious living room, and as a matter of fact, this is no doubt how most people would use this chamber except when entertaining guests at luncheon or dinner. The alcove with built-in seats and table situated off the kitchen will be found adequate for all ordinary occasions.

Conveniently situated between the bedrooms and the bath is a linen closet, and ample clothes closets are to be found in both bedrooms and in the vestibule.

In this feature the architects have planned wisely and carefully. Just as the hall space is minimized without sacrificing convenience, the closets are usually large yet not enroaching on the rooms. A linen closet has become a necessary item in home design.

The living room porch is of good size—10′ by 14′. It has a colored cement or tile floor spaced in squares and makes a pleasant outdoor retreat.

A glance at the bedrooms as shown in the perspective section reveals the space available after installation of furniture. The larger bedroom, measuring 13′ 2″ by 14′ 8″, has plenty of space for twin beds and other fittings, and is made doubly attractive by the window seat set in front. The companion bedroom is 11′ 6″ square and is well lighted by windows on two sides. Both bedrooms have cross ventilation.

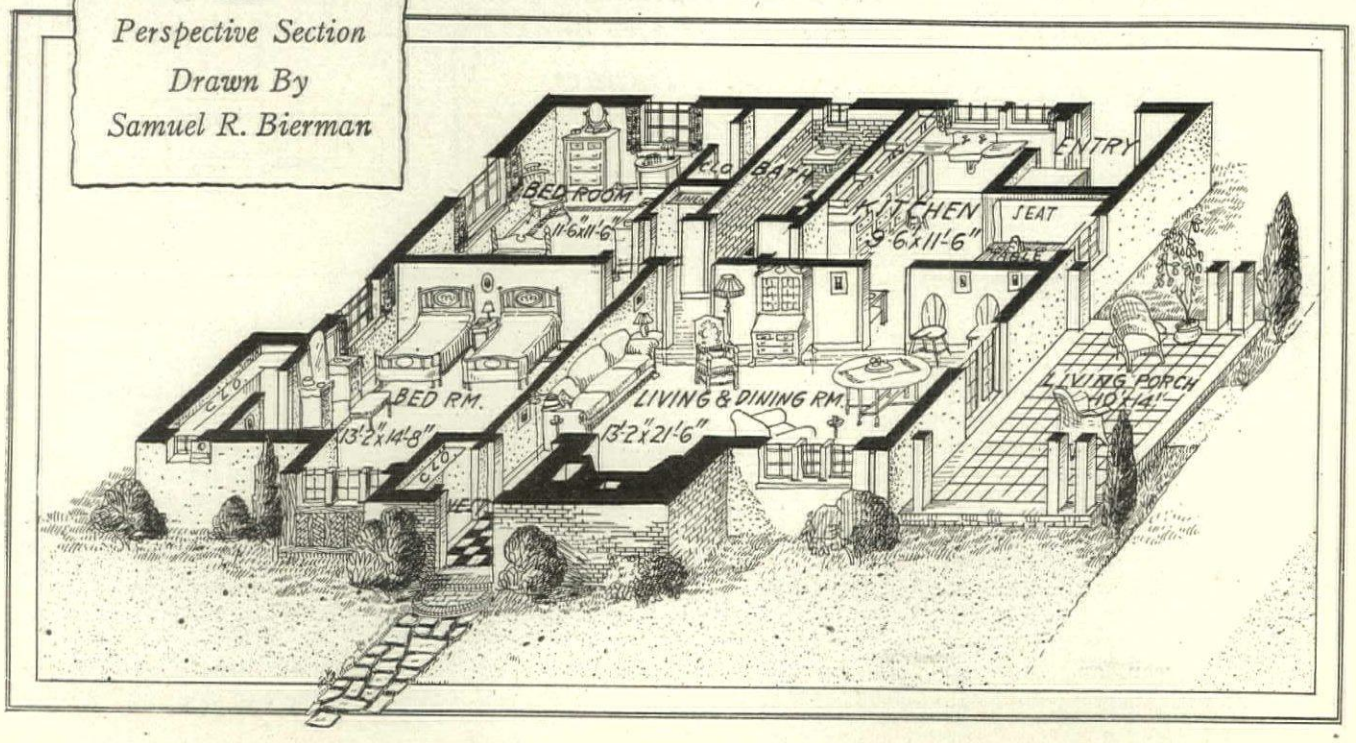
The combined living room and dining room is of very generous size, measuring 13′ 2″ by 21′ 6″.

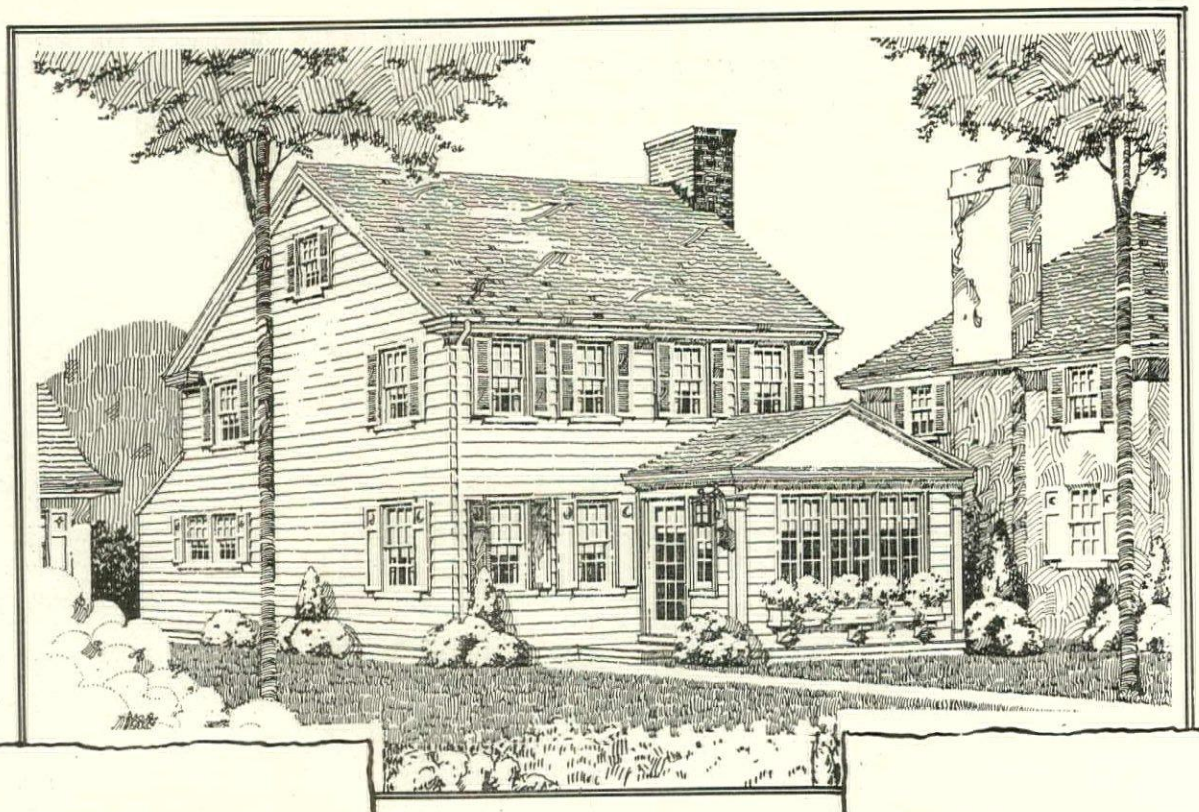
The cellar is reached through the stair in the entry at the rear. Here too is found the ice chest.

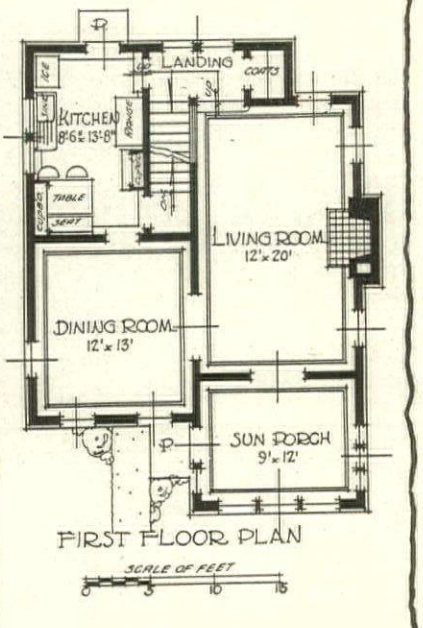
The entry leads to the well equipped kitchen, and a tiled bath completes the arrangement. The steamheating plant, cold room, etc., are located in the cellar.

TUCKED away between a few trees and set off with clumps of flowery shrubbery, a smooth lawn and a stone wall or hedge, this bungalow will make an alluring picture. It is certainly in every way a very livable house. The estimated cost is about $8,300.

The Perspective Section Drawn By Samuel R. Bierman



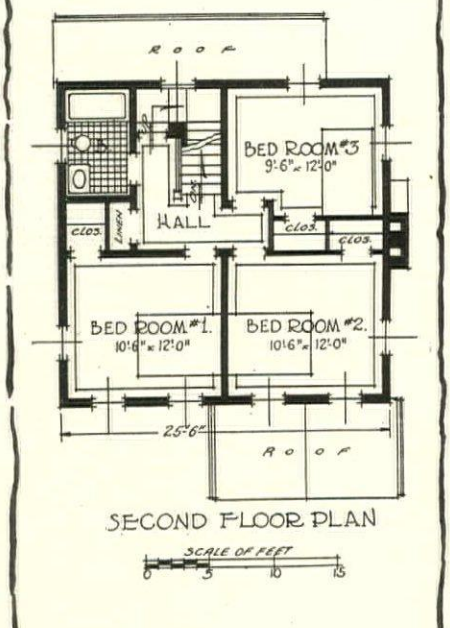




Two Houses of Identity and Charm

Designed Specially for Building Age and National Builder

By R. C. Hunter & Brother Architects



HERE is a little home of definite character and appeal that is economical to build. There is nothing ornate or elaborate about it, yet its early American influence is bound to attract and is in faultless taste.

The roof is exceedingly happy in its shingles of variagated green; while the wide siding of the walls may be either white or ivory in hue.

The Colonial shutters are a pleasant shade of green, and they harmonize well with the roof and walls of the house and with the foliage of its setting.

One enters through the living porch, which is enclosed in glass, into the living room, with its fireplace flanked on either side by windows. The kitchen with its cozy breakfast nook, and the dining room are on the other side of the house.

The plan is exceedingly convenient. Stairs leading from the rear of the living room, land in a center hall on the second floor. The three bedrooms and the tiled bath all connect conveniently with this short hall.

Closets are always useful, and this house is well equipped in this respect. All bedrooms have excellent light and cross ventilation.

. The laundry and coal bin, heater, storage space, etc., will be found in the cellar.

The casual observer will value this home in the neighborhood of $10,000, probably slightly above. In the mind of an admirer, its simplicity does not speak in terms of dollars. Actually, the cost is about $8,100.

A Brick and Stucco House of Character

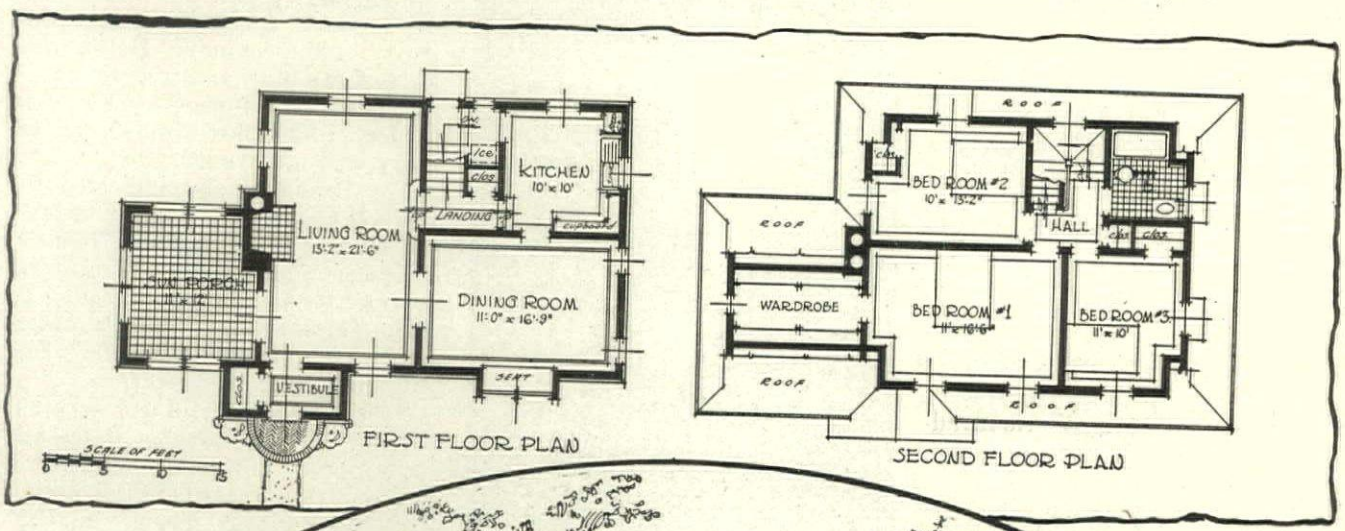
THERE are many people that like the appearance of brick houses, and there is no doubt an air of substantial construction about them that is not obtained to the same degree by any other material.

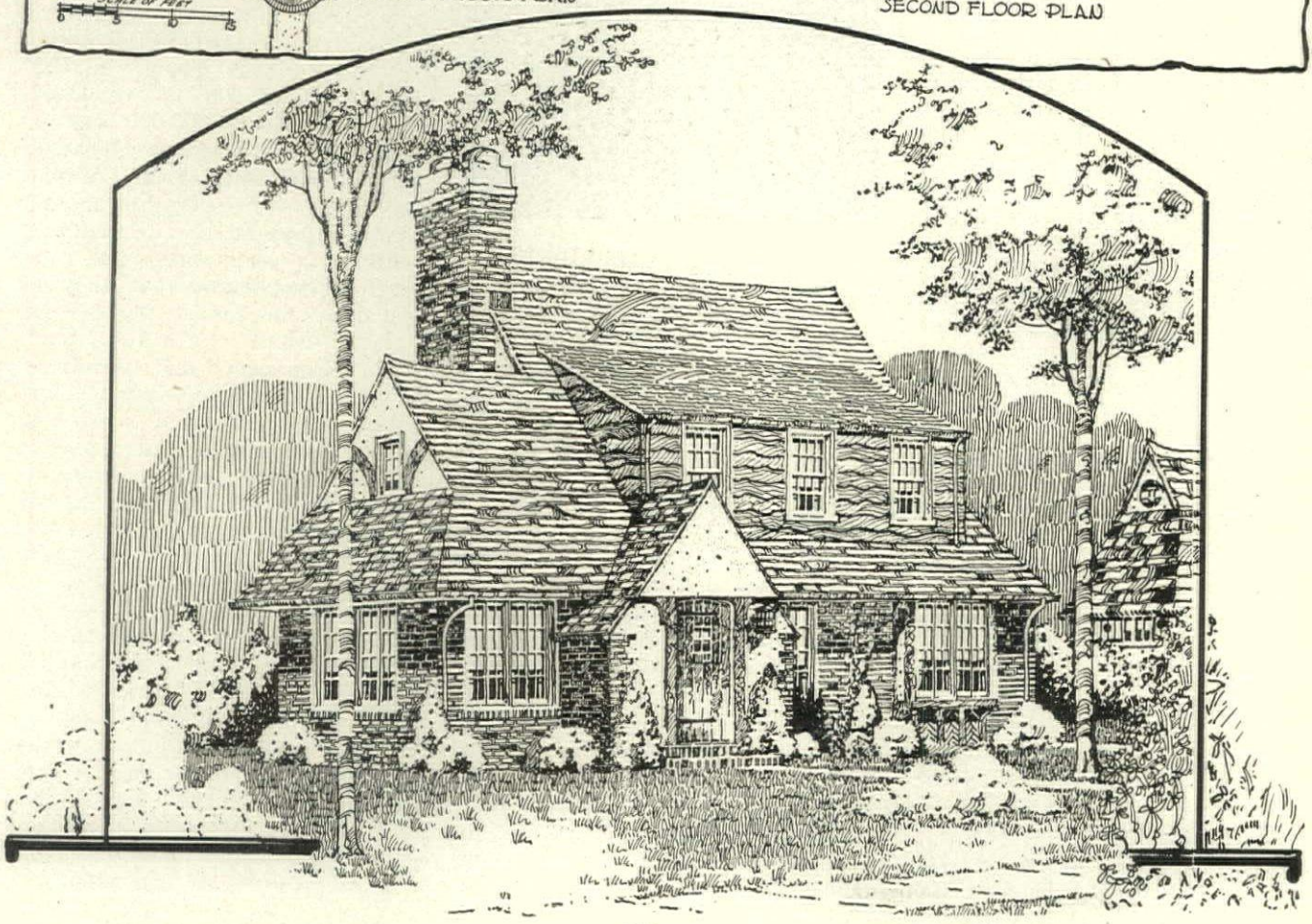
The house shown here is of brick on the first story and stucco above. The lines of this house are good and the dark shingles and brick are relieved by the stucco gables and entrance. The treatment of the brick under the dining room window on the front of the house is unusual and adds a touch of character as do the rough pieces used in the half timber work. The chimney is brick and has a stucco top and squatty pots to cap it off.

The plan is so conceived that a maximum of space is given the rooms. On the first floor one enters into a small vestibule, thus space that would ordinarily be used for hall space is given over to the living room. There is a large fireplace in this room where one may enjoy the warmth and glow of the open fire during the cool days, and a small sun porch opens from this room by French doors and makes a cool and restful retreat in summer.

There is a good size dining room with an attractive window seat and a kitchen with every convenience to aid the housewife in her work.

Within and without the house is at once attractive and compact, giving a maximum of space and charm for the least amount of money expended. The cost is about $9,400.





The A. G. C. Convention Advocates Means for Promoting

Building Trade Prosperity

NOTABLE for its scope and for the character of its program, no less than for the celebrated speakers participating, was the sixth annual meeting of the Associated General Contractors of America, held in Washington, D. C., on January 12, 13 and 14.

Leading the list of distinguished guest speakers was President Coolidge, whose address brought to a memorable conclusion the morning session of the first day. Secretary Hoover, Secretary Work and Postmaster General New, and General Lord and Senator Wadsworth were also among the speakers who addressed the convention. The sessions were held in the Washington Hotel.

Suggestions and policies outlined by President Coolidge, Secretary Hoover and Secretary Work in addressing the convention were followed in the resolutions adopted.

It was urged that the present system of Federal construction be coordinated into a single division to be known as the Division of Public Works in the Department of the Interior. A resolution on Apprenticeship approved and endorsed the report of the Committee on Labor on a national system of training for building trades craftsmen, and also approved the work of the Federal Board of Vocational Education. The Association pledged its support to the public program of vocational education.

An important resolution dealing with seasonal fluctuation in construction advocated the further cooperation of the A. G. C. with the Department of Commerce and commercial organizations to eliminate seasonal habits in construction and encourage more continuous operation throughout the year.

The separate contract system was scored in a resolution "vigorously opposing the use of separate contracts and the enactment of any legislation to establish the use of such contracts by law."

Bonding practices were dealt with in a sharply worded resolution advocating the introduction by contractors in every State into their respective legislatures of a bill to prohibit public officials from acting as agents of surety companies, or from attempting to influence the placing of these bonds with any specific surety. It was further advocated that "legislation permitting optional use of other forms of surety be introduced in every State to break monopoly which has already been created for the corporate surety bond," and that "this Association will welcome a complete investigation of rebating by agents to contractors, public officials, owners and their representatives."



GEORGE B. WALBRIDGE
New President of the Associated General Contractors of America

The Association went on record as opposed to the enactment of any lien law which may be used as an extension of credit to the purchaser of materials, and also resolved to fight the "practice of sales being made under the protection of lien laws in such States as the lien law now exists."

President Coolidge's appearance was the signal for a prolonged demonstration of enthusiasm. In his address the President emphasized the importance which a smooth functioning of the construction industry holds as a factor in the prosperity of the country. He outlined the benefits to be gained from equalization of the volume of construction throughout periods of abnormal activity and depression.

The President also indicated the vast aid to the economic structure of the country to be obtained from development and adoption of uniform contract forms. "These forms," he said, "promise much as an assurance of fair treatment to all." The President said, in part:

"The importance of construction among the country's industries hardly needs any testimony. A recent analysis reached the conclusion that the national income in 1924 was $53,600,000,000, of which approximately $6,000,000,000 was expended for construction. That is, over 11 per cent. of the income. Constructions of one kind or another largely represent the accumulated wealth of a community, and it is, therefore, important that they be erected at the lowest feasible expense consistent with a high standard of permanence and usefulness.

"During the war, owing to more instant demands upon producing capacity, construction was neglected and an enormous construction deficit resulted. The necessity of restoring the balance was realized when peace returned, and we have had an era of high construction activity in recent years."

The President emphasized the importance of construction as a balance wheel in the industrial scheme. "The idea of utilizing construction, particularly of public works, as a stabilizing factor in the business and employment situation has long been a counsel of perfection among students of these problems.

(*Continued on page* 156)

The Building Industry Is Now Face to Face With

The Five Day Week Problem

Will it be adopted?
Will it curtail building?
Will it cause a labor shortage?
Will it increase building costs?
Will it harm the building contractor?
Will it better living conditions
Will it really benefit the workers?

"WILL the five-day week, if generally adopted, work to the detriment of the building construction industry?"

This question was answered emphatically in the affirmative at a national conference of building trades employers in Cleveland on January 5. The assembled employers went on record as being opposed to the five-day week asked by the building trades in many localities.

In practically every instance where the short week has been asked for the demand is accompanied by a request for an increased hourly wage, to allow the mechanic to earn in 40 hours what he formerly earned in 44 hours. Further, it was felt that the universal adoption of the five-day week will increase by 10 per cent the present serious shortage of skilled men in most of the major trades.

Reports submitted by the conference, which was held under the auspices of the National Association of Building Trades Employers, indicate that in a number of the cities some of the trades have already succeeded in putting into operation the short week. The latter is being asked by the Cleveland plasterers and lathers and it is believed that the painters and glaziers will make a similar request.

At the last annual convention of the United Brotherhood of Carpenters and Joiners of America, a resolution was adopted authorizing carpenters in those cities where there is a District Council or more than one local union to take a referendum vote on the five-day week. This vote is now being taken in the larger cities and the results will shortly be announced.

Employers feel that if one of the key trades is successful in this effort, the movement will spread to all the other trades in the construction industry. Any shortening of hours is bound to increase construction costs, and any advance at this time will seriously curtail the great construction program planned for this year.

The resolution adopted by the conference declared in effect: "There is an extreme shortage of mechanics in the building trades in the United States today, and the efforts being made by some labor organizations in the building industry to establish a five-day week would further increase this shortage by almost 10 per cent, thereby increasing the cost of building homes and other essential structures and limiting the amount of construction possible.

"The employers in the construction industry here assembled from throughout the United States believe that the efforts on the part of several trade unions now to put into effect a five-day week, thereby nullifying the splendid work of the apprentice schools to create more mechanics to take care of the shortage, is unwarranted and is a distinct step backward for the building industry.

"It is expected and requested that organized labor will join wholeheartedly with the employers in the building industry throughout the country so that this further restriction in hours of labor will not be sanctioned or upheld, and that they will earnestly assist the employers in removing from the working agreements of any trade any such restrictions as a five-day week."

An Interesting Entrance

TOO often in doorways purporting to be of Colonial design, the entrance columns are too thick and stubby and the cornice too wide. The result is anything but pleasant. In this entrance, however, these details are properly handled, and are combined with other interesting features. The fanlight transom is nicely drawn and the small panes of the sidelights are in good taste. The six-panel door is well proportioned and the raised panels give a reveal that is most attractive. Note also the ornamental caps, surrounding the delightful little newels, with their entrance and enclosing seats.





Plan *Now* for the Spring Rush

Modern Builder's Equipment Helps Save the $$$

The horse has almost lost its place in excavation work. When Spring thaws the ground and the "digging in" season opens, hitch your scraper to the back of a truck and see what modern methods will save for you in labor costs

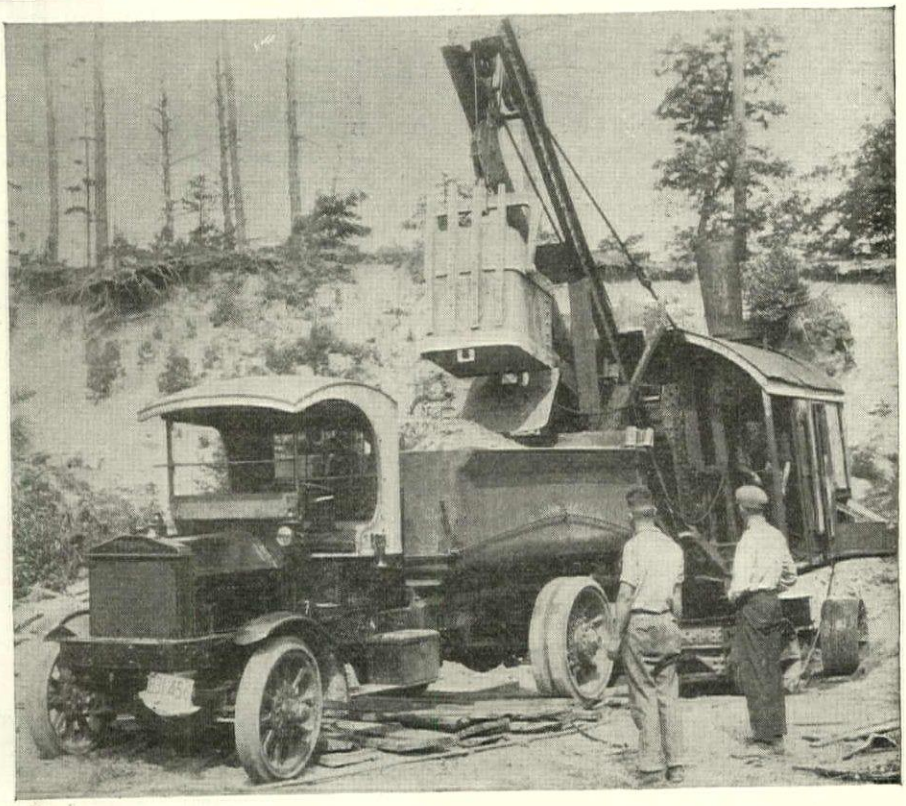
THE winter will shortly be over. Construction has progressed despite the cold; but the rush for the industry will come as usual after the frost is out of the ground. It, therefore, behooves every contractor to take stock of his entire equipment now so that everything will be ready in shipshape condition when it is required.

It may be that some things in the office need looking after. A well fitted-up office is a genuine asset to the builder. An air of quiet prosperity here will impress and influence future customers. Show them that you are a genuine business man, using up-to-date office methods and equipment; the confidence thus gained will offset the cost of a new desk, filing cabinets, etc., many times over.

The good jobs come from people who are themselves in business. Business men sense efficiency at a first interview. Therefore, avoid anything likely to militate against the formation of a good opinion at the very first meeting. First impressions are often decisive.

One great essential is to have a good-sized drawing board, together with all necessary appliances. Even though you receive well-drawn plans from the architect, there will always be some details to be drawn out, such as framing plans, full-sized details for the mill, etc.

Proper equipment in the office for dispatching this kind of work will pay for itself many times over and will furthermore have its effect in creating a good impression upon your prospective customers. Reference books, catalogues, models of houses, samples of material, etc., are all valuable aids to efficient sales work in the office.



If the jobs are getting too big for the old equipment there are plenty of modern machines to choose from. Here is a typical layout for quick excavating. A few scoops from the giant shovel and the truck is filled. No gang of shovelers to eat up labor estimates through inefficiency

At the present time no building contractor can really get along without having a shop of his own, and where the work is on rather a large scale, it will pay to have a field shop installed. Even on smaller operations it is well to have at least a portable saw and jointer on the job. One can hardly figure out how many hours are actually saved by the use of power equipment. Hours are dollars! Labor is high and power is comparatively cheap; so lets use it.

Today, with the high cost of



One tractor hauling loads like these will keep many men busy loading, while the workmen on the job are assured a steady flow of material

labor, builders should take advantage of every labor-saving device in order to keep down to a minimum building costs.

Take a look at another industry and see what is accomplished there despite high wages and high prices of raw materials. Ford cars are today selling for less money than they did years ago and a better product is being put out. Formerly that would have been an impossibility; today it is a reality.

The answer is, efficient methods or working. No one is worked to exhaustion, but all are working in the proper way— no lost motion and no unnecessary manual work—machines do everything. Power directed by brain is more capable of good results than simple manual operation.

Perhaps one of the best investments that you can make is in a good-looking office and shop building of your own. Make this building an object of beauty as well as utility—show that you can really build something that will be talked about—advertising cannot be secured more cheaply or effectively. Believe in your own business, and show that you do.

In case that you have built such a structure, BUILDING AGE AND NATIONAL BUILDER will be glad to print a description of it if you will kindly send us photographs, plans and data. It will certainly be a help and an inspiration to your brother contractors.

Take a little thought of your tool shanty or field office. There is no reason why these should be the ugly looking contraptions they so frequently are. They can be transformed with just a touch of color so as to be attractive. It pays, even on a temporary structure of this nature. Many contractors in cities are adopting this clever way of securing good advertising. They even make their sidewalk sheds artistic canopies.

WHEN the pyramids were built all those huge stones were slowly moved up an incline by brute strength of the unhappy captive slaves of the Egyptians. They were goaded on to their task by the lash of the slave driver. Today a simple touch of a push-button starts an electric winch a-going—or the turn of a lever starts a gasoline-operated one—and away goes an immense draft of building materials to its appointed place without driving anyone to physical exhaustion.

The builder of today has all sorts of modern machinery and equipment as well as a wide variety of improved building materials to help him erect monumental buildings, such as are required by our present day civilization.

Despite the fact that there is a good deal of shoddy construction going on, it is also true that we are today building houses for laborers that have more convenience and comfort than the palaces of kings in bygone years.

At this time of the year, when there is a little breathing spell in the rush of work, it is well for builders to go carefully over all that is new in their respective lines. Some certain kind of new fabricated material may enable your men to work more rapidly and thereby effect a big saving.

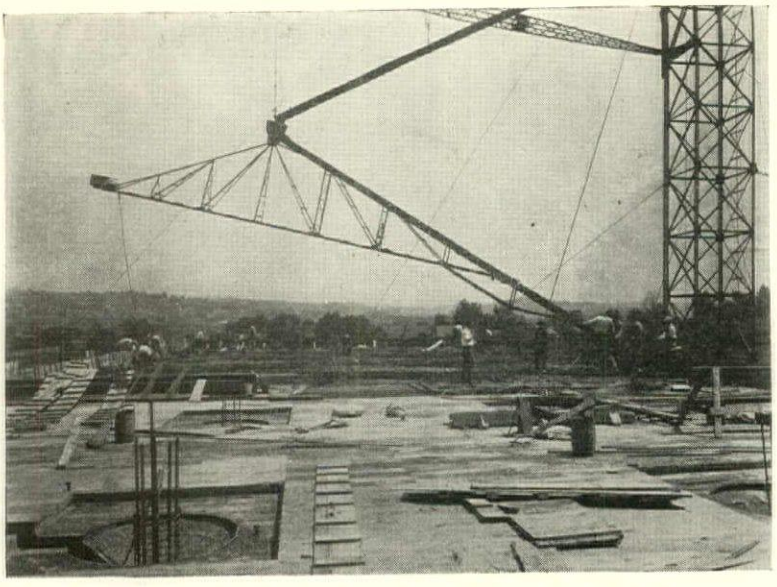
Different articles in this issue tell about certain phases of construction equipment, and some interesting points are brought forth. We are also giving a checking list of different items of equipment. You can go through this and check off the items you need to buy or look into.

It is surprising, indeed, what a variety of tools, machines and appliances the building contractor



Pile driving is simplified with modern machines. Here concrete piles are driven in rapid succession, keeping pace with the demand for rush foundation jobs that must be good

Loading, wheeling and dumping are eliminated in this concrete project. To any point on the job this tower and chuting apparatus



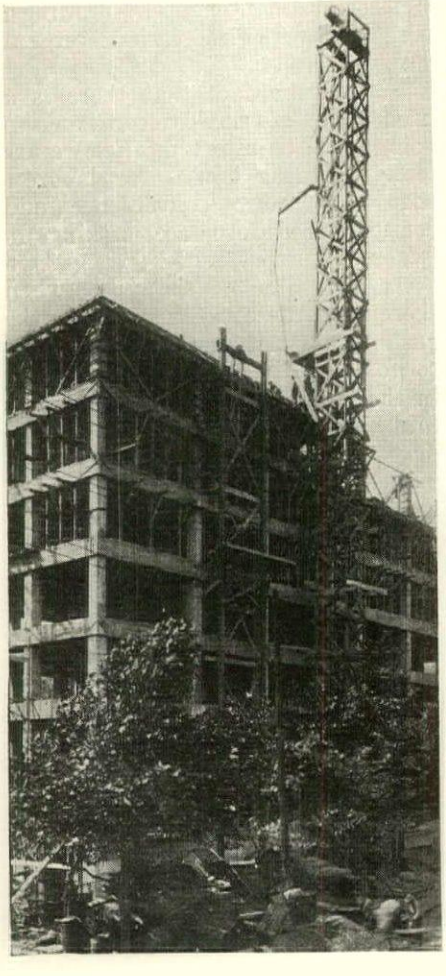
delivers concrete in a practically continuous flow. The job need not be so very large to justify equipment like this sturdy apparatus

needs. There are different sizes of practically every piece of equipment made. Be sure that you select the size for which you have the most use. If your jobs are on a large scale, small-sized equipment will not answer.

Now is the time to think about all things that you will need for the spring rush. From all indications, there will be plenty of building to do in 1925—enough to return every live contracting builder a good year's profit. Proper equipment will unquestionably enable you to save time and money, and will add materially to your total profits.

Equipment You May Need

Material hoists and concrete chutes render stalwart service to hurry-up construction in concrete. Motive power is always available in the form of gas engine or electric motor units of various sizes



THAT the contractor may survey his field and make judicious choice of labor-saving equipment, it is recommended that a study of the articles in this issue be followed by reference to the Selected List of Manufacturers' Literature and the advertising sections — signboards pointing the way to a veritable builders' pot o' gold.

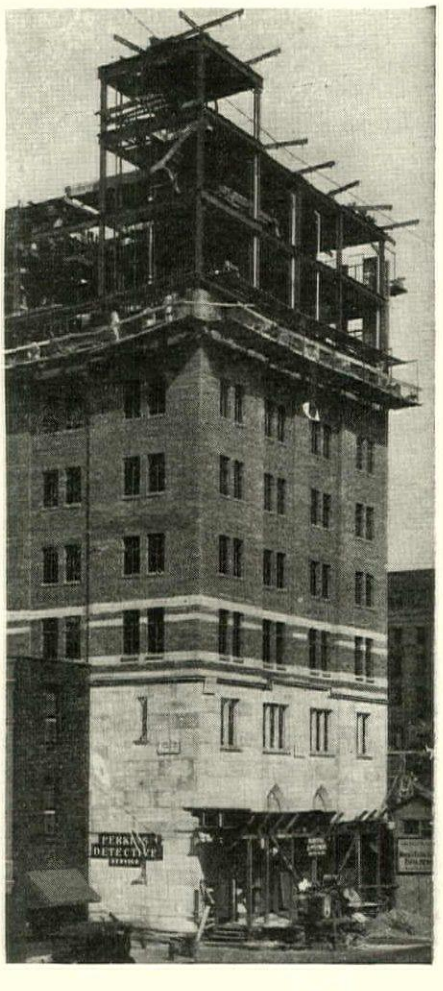
For Your Office:

Desk, files, typewriter, adding machine, check protector, time clock, metal lockers, drawing tables, drawing instruments, drawing pencils, inks, drawing paper and tracing cloth, blue prints, blue print machines, house plans, reference books, instructions, cameras, stationery.

For the Shop:

Work benches, woodworking machinery, electric motors, gasoline engines, shafting, pulleys and belts, hand tools, measuring tools, steel squares, tri-squares, etc., files, pencils, levels, miter boxes, clamps, grinding stones, veneer presses, nails, screws and bolts, etc., glue and glue heater, sand paper, bins for storage, hand trucks, fire extinguishers, first aid kit, lockers, electric blowers for bench, ventilating fans.

With foot rails, guard rails and safety nets, this hanging scaffolding is a model for the competent builder to follow on his next erection job. Safety and convenience here aid builder and workman





Careless and hastily thrown together stagings are usually unsatisfactory. Here, the structure is insecure and unsteady. In addition, in tearing it down the boards are damaged beyond further use

For the Field:

Axes, air compressors, anvils, auto-passenger, auto truck, auto trailers, axes and hatchets, bar benders and cutters, barrels, brick cleaning machines, brick clamps, brackets-scaffold, brackets-shingling, buckets, buckets for concrete hoisting, canvas covers, capstans for house moving, cement bag cleaners, chains, chain blocks, chalk, chutes for concrete, clamps-form, clamps-scaffold, clips for forms, cloth for covering windows, etc.; concrete trucks, concrete mixers, conveyors-hod, cord for chalk lines, crow bars, derricks, ditch digging machine, door mortiser, dynamite, elevating machinery, excavators, first aid kit, flood lights, floor scrapers, polishers, sanders, gasoline engine, hammers-sledge and carpenter, hand carts and dump carts, hand tools for masons, plumbers, electricians, carpenters and painters, hand trucks, hods, hoes, hose, hoists-chain, hoists, iron-sheets for mixing mortar, jacks, kerosene engine, ladders, lanterns, lights, levels and plumbs, lumber crayons, mattocks, mitre boxes, mortar mixing boxes, pencils, portable tool shanties or field offices, picks-hand, picks-power, pile drivers, power shovels, planks, portable woodworkers, pulley blocks, pumps-drain, centrifugal-force rams, etc., rakes, rollers for house moving, rope-hemp, manilla and wire, ropes and tackle, surveying instruments, transits and levels, shovels and spades, steam engine and boiler, stone crusher, stone drills, scoops and drags, stump pullers, steel tapes, surfacing machines, stone, stucco machines, screens-sand and gravel, scales-weighing, sand blast machinery, salamanders, shovels-spades, stone drills, saw horses, or trestles, tampers, tanks, trowels, tractor, tool chests, tool bags, tents, trenching machines, time clock, tarpaulins, well drilling tools, wheel barrows, windlass, etc., etc.



Here, the staging is a maize of timbers put together with little regard for strength or efficiency. Note the unreliable footing for the wooden horses, endangering the workmen's lives unnecessarily

Some Appliances and Building Equipment:

Ash hoists, ash receivers, awnings-cord, etc., auto turn tables, bath-room cabinets, disappearing door and beds, blackboards, blinds-venitian, boxes for meters, milk bottles, packages, etc., clothes dryers, clothing carriers or hangers, clothes, posts and hangers, coal chutes and covers, conservatories, dumbwaiters, elevators, fences, iron and wood, gates, arches, fire extinguishers, fire hose, foot scrapers, fire places, garbage receivers, garbage incinerators, ice boxes, kitchen cabinets, kitchen equipment-tables, ironing board, closets, laundry equipment, lightning rods, lockers-metal, log lifts, mantels, mail chutes, movable stairs, package receivers, pergolas, etc.; sun dials, arbors, refrigerators, refrigerating machinery, screens-window and porch, shades, show cases, stair treads, safety, vacuum cleaners, ventilators in doors, etc.; roofs windows, transoms, weather stripping, weather vanes.

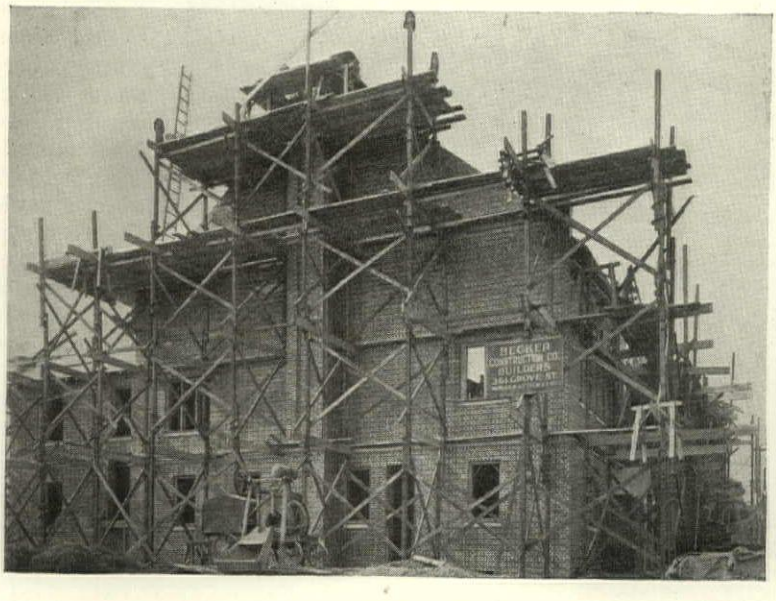
Up-To-Date Materials:

Never has there been such a wealth of new developments in building material as is set before the contractor today. And the home buying public is well informed of the progress; the manufacturers see to that.

Better construction in concrete, the attractive use of face brick or common brick with colored mortar, novel stucco finishes, effective wood work, etc.—all these represent the progress of which the consumer is now well aware.

He has been taught to speak of roofing in terms of different shapes, materials and sizes, and the architectural value of each.

In electrical equipment, building hardware, brass pipe plumbing, windows, insulating materials, and kindred materials, the home purchaser displays an active interest — the result of publicity in popular magazines to create these consumer demands for specific building materials.



Every contractor should jot down "clamps" on his equipment list for Spring construction. This job is marked by an orderly and secure arrangement of the staging which timber clamps make possible. The whole thing may be easily taken down and the timber, undamaged, used again

On the Job or In the Shop Power Saws Save Money

FOR the carpenter contractor, or the general contractor who does carpenter work, the machine saw is an important piece of equipment. It has been the common thought among builders that equipment of this character could be used to advantage only on large jobs but recent experience has shown that even on small jobs a power saw soon pays for itself. This will be more readily appreciated by anyone who has seen a carpenter saw a heavy piece by hand, and then has had an opportunity to watch a power saw do the same kind of job.

Of course, there is hardly any limit to the size and elaborateness of a plant, and there is no limit to the amount of money that can be spent in the installation of machinery, but upon investigation it will be found that a small power saw, sufficiently large enough to handle any average size job, can be purchased for a very moderate sum. There are also many different types of machines, each of which is best suited to a particular kind of work.

Fig. 1 shows a type of machine that has recently come into prominence due to the many operations which may be performed upon it. It may also be used outside on the job as well as inside in the shop. It consists of a saw, planer and joiner, and is compactly mounted, all opertions being carried on by a single motor.

In Fig. 2 is shown a band saw. This type of machine is for use only in the shop as it is hardly fitted to handle heavy materials such as joists and studs. Its purpose is rather for making frames and ornamental woodwork than for cutting heavy pieces for roughing in a job.

A simple saw-rig, partly "home-made," is shown in Fig. 3. Here a gas engine is used to furnish power, and the saw is mounted in a table made on the job.

The builder who has a good deal of work for his saw will find that the arrangement shown in Fig. 4 will give the best results. Here the job was big enough to warrant the erection of a shed for the saw and table so that not only would the machinery be protected, but also the plant could be operated in bad weather. Notice that the saw has been mounted in the center of the shed, with two tables on each side of the blade. This makes possible the feeding of material from both sides of the blade, and will also be found to be a great convenience when long pieces are to be ripped.

There are any number of good power saws on the market, and the contractor will find no trouble in getting one to suit a particular job.



Fig. 4. "On the job" in more ways than one. A simple saw unit built to fit the work often proves very effective. This one is designed for ripping long pieces

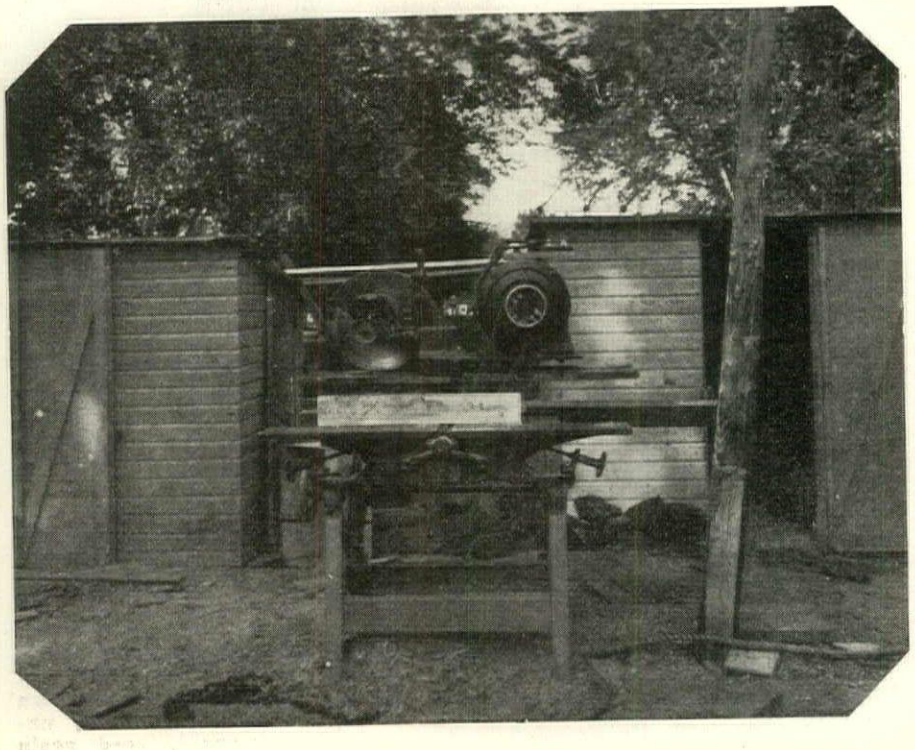


Fig. 1. A miniature and compact woodworking shop. This machine carries a saw, planer and jointer for all sorts of work on the job

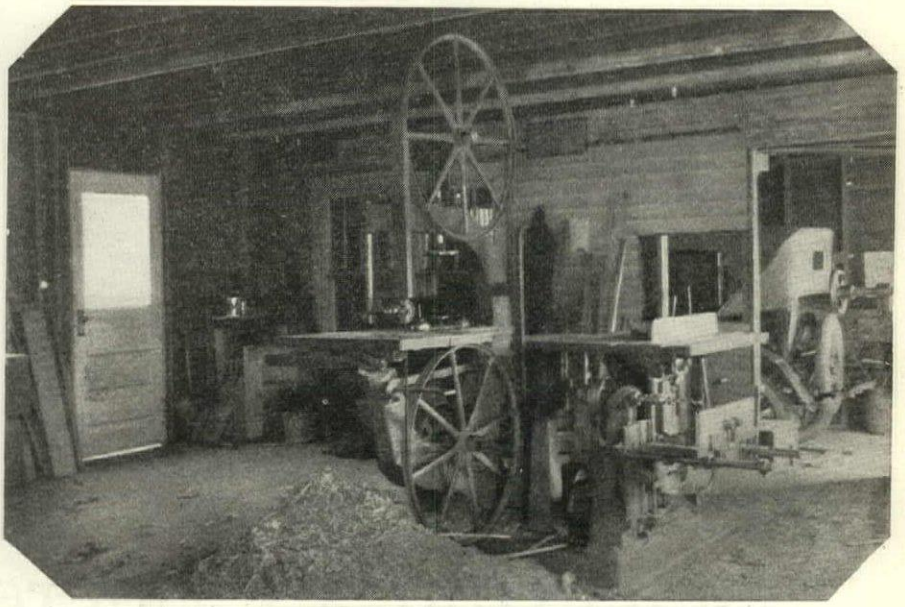


Fig. 2. For frame making and ornamental woodworking this band saw is a valuable addition to the contractor's shop equipment

It is recommended here, however, that an "all-around" type of saw be purchased rather than a saw suitable only for a single purpose. It will be found mighty convenient to be able to do a few "tricks" when the need arises. It is unwise, however, to buy anything but a simple saw if it is to be used only for roughing in on the job.

Elaborate equipment naturally requires more careful consideration preparatory to the actual purchasing. On the other hand, the contractor can quickly estimate his immediate needs and buy accordingly.

Used where the building is going on, the simple saw that can be set up and taken down in a jiffy represents a good investment. Labor is an item in the estimate that only labor-saving equipment can materially reduce. The elimination of unnecessary routine effort benefits the builder directly through money saved and by a scarcely less direct channel through inexpensive home building proportionately with greater volume.



Fig. 5. Taking care of the old Ford's idle hours. Here is the unique Jaeger labor-saving machine

A labor-saver, designed primarily for use on the job, is shown in Fig. 5. Here, time-consuming old methods have been discarded in an interesting manner. Practically every contractor has one or two Ford cars standing around on the job. Better than leave these to eat up the investment, this portable saw puts them to work to good advantage. In a very short time, one of these may be attached to the front end of the car, taking its power from the motor. The pulley shaft passes through the crank hole and engages in a special fan belt pulley on the end of the crank shaft.

Each unit is equipped with a sliding table, gauge, a guard over the saw, a 12″ cut-off and a 10″ rip saw.

It is estimated that one man operating this type can furnish a half dozen carpenters with material to put in place. When not in use, the 150-pound unit is taken down and carried to the next job in the back of the Ford. In this way, the labor saved collectively on several jobs cares for the investment on the one machine.

The operator who feels justified in operating several kinds of saws—for example, shop saws and "on the job" saws—will find some interesting reductions in his cost sheet as a result.

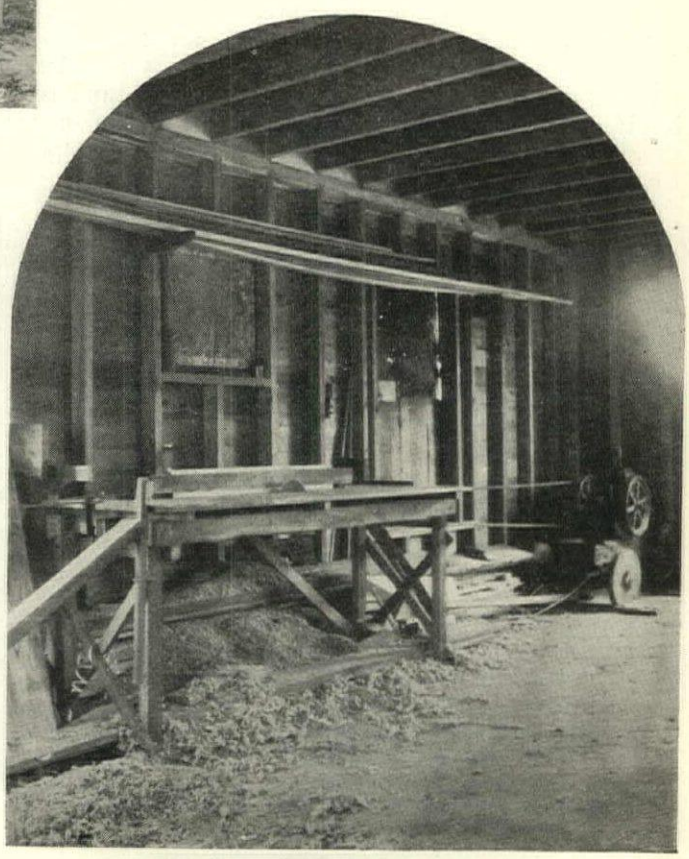


Fig. 3. The equipment of any shop, regardless of size, can afford a saw table patterned along these lines. Most of it is homemade; a gas engine furnishes the power



Fig. 4. With this all-'round machine, a steady flow is possible; yet, suitable for small work

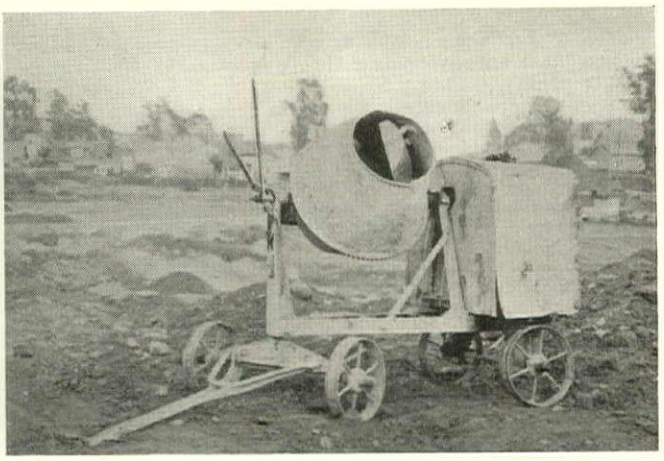


Fig. 1. This small tilting mixer is well adapted to small work where portability is the big item

Selecting a Concrete Mixer to Fit the Job

IT has been said before that this is an age of machinery, and as we review the trend of events towards the mechanicalization of industry, this fact becomes readily apparent. More and more is machinery being used, and it is constantly coming to take over that labor that was once done only by hand. The building field is finding new uses for mechanical assistance, and wide-awake contractors are constantly on the lookout for labor-saving devices.

It is one thing to use machinery, and another to use it intelligently. Even the best of machines will not produce a return upon their investment unless they are used in the proper manner and correctly maintained. This is consistently true of concrete mixers.

These machines have come to be almost indispensable to the mason contractor and to the builder who works with concrete. They are built in various sizes to suit various conditions of use, and by the selection of the proper size at the time of purchase is determined a good deal of the satisfaction to be obtained from future use.

For instance, it would not be economical to use a heavy mixer for light work, and likewise a small mixer where a large volume of concrete and a steady flow will be required. There are, of course, instances and emergencies where it is impossible to find the right sized mixer for the work at hand, but these are generally few and far between.

For the contractor who is engaged constantly in large work and who is seldom called upon to do small jobs, a big mixer, such as is shown in Fig. 3, is the thing. This is a two-bag mixer, and is capable of handling a batch of concrete containing two bags of cement and sufficient aggregate to make a mix of the required proportions. In emergencies, this mixer can be used for small work, though it means somewhat of a loss due to the larger amount of money invested in the machine and the extra expense of operating as compared with a smaller sized machine better suited to the work at hand.

By way of contrast, see the mixer illustrated in Fig. 1. This is a small tilting mixer of four cubic feet capacity, and suitable only for small work, where a small amount of concrete is required, or where it is not



Fig. 5. Through effective layout this machine does the work of a more elaborate equipment

necessary to pour large amounts of concrete continuously. This machine is excellent for small sidewalk jobs and for laying foundations in small buildings but it is hardly possible to use it on a reinforced concrete job where a steady flow and large volume are required. It would take a battery of these to do the work of the machine illustrated in Fig. 3.

Fig. 2 shows a mixer of the same type as illustrated in Fig. 1, except that it is slightly larger in capacity and is mounted on a rubber-tired carriage. This machine has an advantage in that it is readily portable and may be moved from job to job with little difficulty. It can be readily attached to the rear of a light truck and carried along at good speed due to the type of mounting upon which it is fixed.

There is a trend toward the portable machine, not alone in concrete mixers, but in other building equipment as well. The fact that cost cutting on several jobs may serve to balance one investment offers an attractive way out to the small contractor.

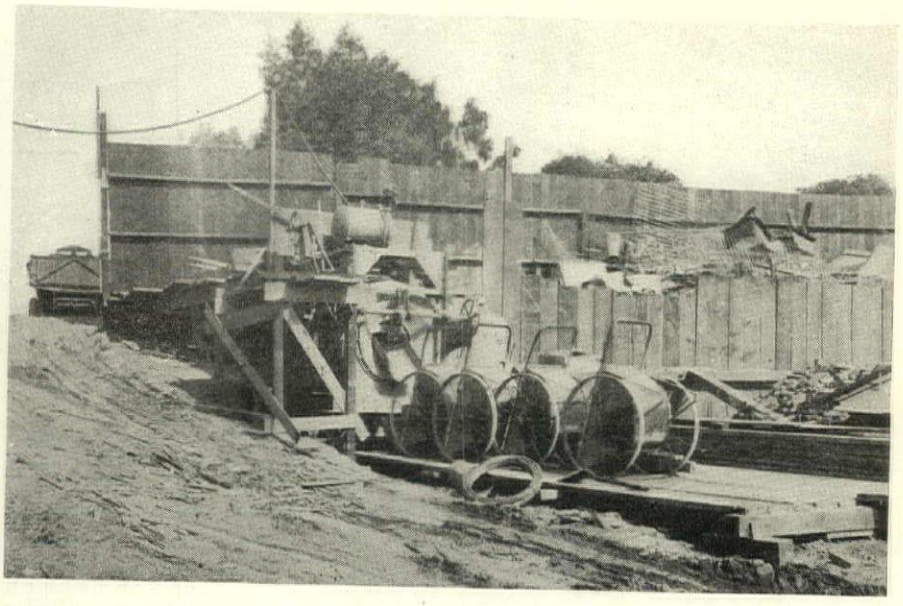


Fig. 3. A two-bag mixer for heavy foundation jobs where a steady flow and large volume of concrete are needed. The installation here is permanent during the erection of the concrete work



Fig. 2. For speeding the mixer from job to job this one is mounted on rubber tires. The single unit, hooked up to the back of a Ford, may be trailed along at a good speed

In Fig. 4 is shown a one-bag mixer such as has been found to deliver the best results for all-around work. It will provide a steady flow of concrete for a fairly large job and can be used on even small jobs with little increase in overhead. Contractors engaged in laying apartment building foundations have come to find this size of machine most suitable to their needs.

A glance at Fig. 5 will recall another factor that bears directly on the selection of a proper mixer. It is the factor of job layout. The small concrete machine on the big job will often produce a steady flow if the materials are distributed in easy reach. In the January issue an article, entitled "Small Concrete Job Layout," discussed this phase in detail.

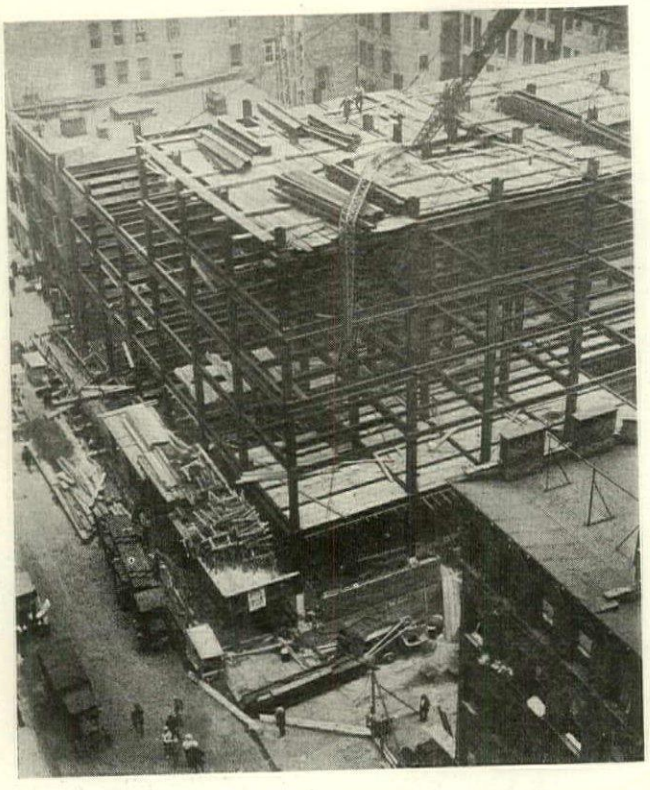
On the construction operation described, the mixing machine was doing the work that ordinarily calls for larger capacity equipment. Efficient planning of the piles of aggregates made possible the production of the batches in rapid succession. Had the all too common hit-or-miss dumping of stone, sand and cement been permitted the size of the mixer would probably have been insufficient to keep pace with the progress at the receiving end.

Usually, the contractor can estimate in advance the nature of the work on which the prospective apparatus is to be used. If his contracts are of large proportions throughout the year, he should consequently select a large capacity machine.

On the other hand, if the large construction jobs are seasonal with small contracts sandwiched in between, a medium sized machine represents the soundest investment. Then, with careful planning the one piece of equipment serves for both at a moderate average operating cost.

A third phase involves the small builder. While the small mixer is the logical choice, he should bear in mind that occasionally he may figure on a large contract. So the plans for the future should carry a safety factor just as the bridge engineer designs his structures to bear weight far beyond the contemplated greatest loads.

Remember this when you go to buy your mixer: It is the proper size machine for your work which will produce the best results.

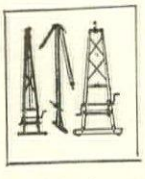


DERRICKS

How They Increase Profits On the Job

Fig. 7. Do not overload your derrick. Five tons of steel girders wrecked this one, killed a man, and cost the owners time and money

THE cost of any job depends to a great extent on the task of distributing materials over the work. Where the job runs over one story high the problem becomes an important one indeed, for then all items used in the second story must be lifted from the grade level to the place where they are to be used. For large jobs, where heavy steelwork is to be handled, machinery must be employed. No contractor would think of lifting a heavy fabricated steel girder into place by simply blocking it up. He uses a derrick.



Just as a derrick has been found to be economical in the hoisting of heavy objects it may be used as well where comparatively light materials are to be handled. It must be continually borne in mind that a derrick multiplies man power, and that man power is a mighty expensive thing on any kind of work. Why let a man carry a hod up a ladder when the same man could lift two hods on a hoist? Why pass lumber from floor to floor when by means of a derrick it may be lifted from the ground to the top floor without rehandling? Those are the things to be recalled when the efficiency of a derrick is discussed.

There are several types and kinds of derricks in use by building contractors ranging from the simple derrick shown in Figs. 1 and 2, which are operated by hand, to the heavy guy derricks shown in Fig. 4 which are operated by steam engines. Each is especially suited to its own particular kind of work and a good deal of the satisfaction to be obtained from a derrick is dependent upon the proper selection of type and size.

Fig. 1 illustrates a simple roofer's derrick of the "stiff-leg" type. The cross-arm may be swung on its vertical axis. Fig. 2 shows another roofer's derrick of the "breast" type. This is lighter than the derrick shown in Fig. 1 and is mounted in a different manner.

In Fig. 3 we have a "stiff-leg" derrick mounted on the second floor of a building and used for the purpose of lifting materials from the grade to the floor under construction. As the building progresses in height the derrick will be moved from floor to floor so that it will control the entire height, and may be used for bringing up materials to any floor.

The derricks shown in Fig. 4 are generally called "guy" derricks from the fact that their main support is derived from the guy lines which run from the tops of the derricks to the ground, and prevent the vertical members from tipping.

Fig. 2. The roofer finds this light "breast" type extremely convenient for small loads

When used in the fashion illustrated here, the best results are obtained when the derricks are so arranged that the circles described by the booms meet as shown in Fig. 6. If this is done, it is possible to transfer objects from one derrick to another and thus aid in their distribution over the job.

Derricks may be used to good advantage in wrecking as well as in building as is illustrated by Fig. 5. Here it was impossible to build a rubbish chute on account of lack of space, and the debris was lowered to the ground in a bucket which was handled by a derrick mounted on the roof.

Though an economizer of labor and time the derrick has its limitations. Too often the tremendous power of a large derrick leads to carelessness in loading. Fig. 7 shows the result of straining the boom beyond its limits. This derrick, capable of raising easily 3 or 4 steel beams, became a twisted mass of metal under the 5-ton load to





Fig. 1. A small stiff-leg derrick operated by hand. The cross-arm may be swung on its vertical axis to facilitate unloading

which it was subjected. Avoiding over-loads may sometimes mean an extra trip but that is an inconsiderable disadvantage compared to a breakdown such as pictured here.

For many small jobs where even a simple derrick seems inadvisable, an improvised gin-pole may be used to good advantage. A timber gin-pole, 40′ or 50′ long, with a little skill in handling, often answers the requirements with a material saving in money.

Where the duty is to be more severe, steel gin-poles may be built. The erecting contractor should have, as a judicious addition to his equipment, the necessary parts of a steel gin-pole—a basic top and bottom section and sufficient intermedite sections to provide for maximum length. The available storage space decides the length of these intermediate sections.

The usual practice of lifting steel work calls for only wire slings and friction blocks. This type of binding is by far the safest and most expeditious. In this manner several slings may be kept in use—the ground men assembling members while the bridgemen release the loads and return the slings.

A chain is sometimes used for raising structural pieces, though this practice is extremely dangerous. Faulty welds and even frigid weather are responsible for serious accidents through link failure.

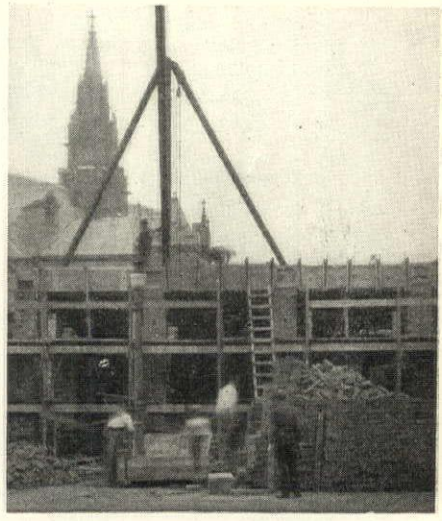
Fig. 3. Material handling on erection jobs means that the derrick must be moved from floor to floor as the building progresses



Fig. 5. Here there was no room for a rubbish chute, so a derrick mounted a top the building lowered the debris to the street

The selection and care of hoisting rope depends in a large measure on the contemplated use of the derrick —where and how it will operate.

In wire rope, standard Hoisting Rope is the type generally used.



This is built with a hemp core and wound with six strands of nineteen wires each. Its strength varies from 2,000 pounds in ¼″ size (10d) to 4,000 pounds, depending on the metal—Swedes Iron, Crucible Cast Steel or Plow Steel. In the largest size 2¾″ (00), the strength ranges from 222,000 pounds for Swedes Steel to 555,000 pounds for Plow Steel.

Manilla rope, of course, has a lower breaking strength than wire for the same diameter. The small size, ¼″, will bear only 120 pounds without failing. The load limit for the largest size, 3¼″, is 75,000.

Wire rope should be examined with great care. The hemp core, in particular, should be able to bear inspection and, if damaged, safety demands that the cable be destroyed. At all times, wire rope and manilla had best be stored in a dry place under the charge of a responsible person. Upon his condemnation the faulty cable should be destroyed to avoid the possibility of issuing it again by mistake.

Fig. 6. These boom circles show how the loads can be easily transferred from one derrick to the other

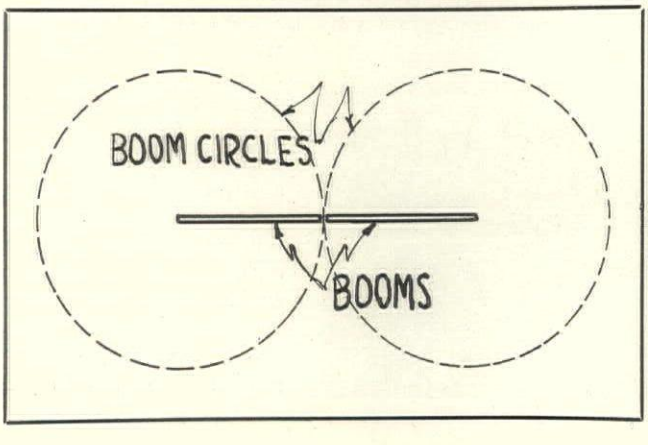


Fig. 4. By taking up and paying out the proper guys these derricks may be shifted as the work advances



Gas Engines as a Source of Power On the Job

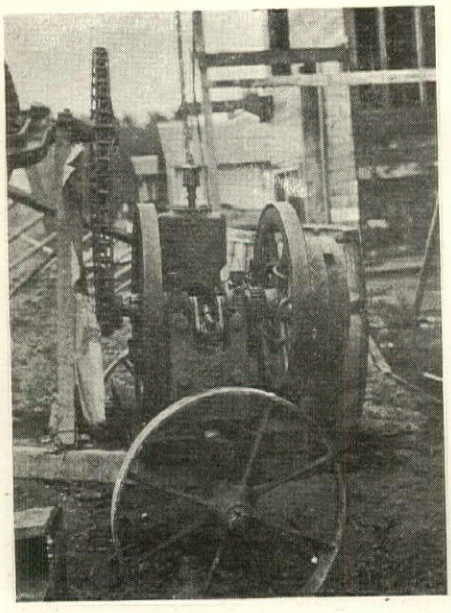


Fig. 3. Hooked to a concrete mixer, this "one-lunger" turns the drum. The mounting structure shown is the chassis of the mixer

THERE are three methods of supplying power for the operation of ordinary builder's equipment gas engines, steam engines, and electricity. Each has its advantages and its disadvantages, and each is suited for a specific purpose. Where excessively heavy work is to be done steam is most desirable. Where intermittent operation is required, then electricity is preferable. For all-around work, however, the gas engine is the thing.

It is not meant to imply in this article that gas engines will ever take the place of steam or electricity. Each of these has its own points of superiority which cannot be denied" but for the average contractor who requires a piece of equipment that can be used in as many different ways as possible, and under as many different kinds of conditions, the gas engine will be found the most satisfactory.

First there is the variety of makes and types from which to choose. There are dozens of different makes on the market, all good, and each manufacturer generally turns out several sizes and types. Engines may be had from ½ h.p. up. Gasoline is a universally distributed product, and so no difficulty will be encountered in obtaining fuel any where. No engineers are required to run them; they need only be started and given a moderate amount of care to keep them in operation.

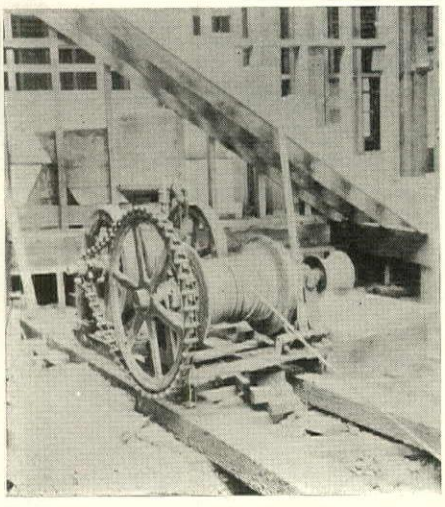


Fig. 1. Here the engine runs continually, revolving the clutch-operated winch. It is mounted close to the drum to accommodate the chain drive

The uses to which a gas engine may be applied are many. Fig. 1 shows an engine used for supplying power to a material hoist. Here the engine is mounted close to the which, the power being transmitted by means of a chain. In this arrangement, the engine is kept running continually, the hoist being operated by means of a clutch.

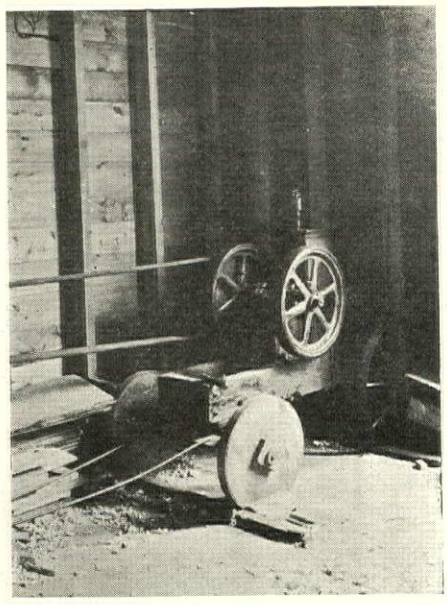


Fig. 4. Moved from job to job without heavy lifting and unloading, this portable engine serves a multitude of purposes

Fig. 2 shows a gas engine used to drive a power saw for a carpenter crew. In this instance the operation was more or less intermittent, the saw being allowed to stand idle for a long period. The drive here is by belt, the customary type of drive for this kind of machinery. Fig. 3 illustrates an engine mounted on a chassis of a concrete mixer and used for turning the mixing drum.

In Fig. 4 we see how a contractor's ingenuity may assist him in getting the greatest benefit from his equipment. This man has mounted his engine so that it can be easily moved about, thus providing an excellent means of handling it. There are many other numbers of ways in which a piece of equipment of this type may be used on a job. They will suggest themselves to the contractor as he goes along with the work. In many cases, manufacturers of power equipment group in one unit the machine and engine. Concrete mixers and roughing-in saws are common examples of this type. They are compact and easily moved from job to job.



Fig. 2. A typical and convenient application of the gas engine to work "on the job." The carpenter crew is using this equipment for roughing-in. When its services are no longer needed, a truck can easily transport it to the next scene of operations. The long belt drive makes the engine applicable to practically any type of motor-driven apparatus for contractors

Plan for Accident Prevention *and* Save Money

ECONOMY of properly conducted safety work is shown in the actual savings to employers who pay in money for the cost of accidents just as the worker suffers through bodily injury and his loss of earnings.

Such was the burden of an address on "Your Interest in Safety in the Building Industry," given by L. D. Woedtke before the New York Building Congress on January 14 at the Hotel Commodore. Mr. Woedtke is general representative of the Construction Section of the National Safety Council and head of accident prevention and safety work of F. T. Ley & Co., Springfield, Mass.

It was pointed out that safety work not only requires comparatively little cash outlay, but in many cases means a great saving for the employer in liability insurance costs. In this connection there was chosen for an example an estimated payroll of $100,000 at an average manual rate of 5%, or $5 per $100 payroll.

The latter figures would result in a manual rate premium of $5,000 on which a 10% experience credit rating reduction would result in a saving of $500, or a 20% reduction would save $1,000.

"As a matter of fact," declared the speaker, "most contractors pay a manual rate averaging nearer to 7% than 5%. Therefore, let us go a step further and now take an estimated annual payroll of $500,000 with an average insurance rate of 7% and then apply a 20% reduction, under experience rating, and see if it is worth while as an investment to spend a little money and time on organized and genuine accident prevention work. Half-a-million dollars at 7% makes an insurance premium of $35,000. Doesn't that look attractive and worth while from a business man's viewpoint?"

Accident prevention work is therefore seen to be among the things which hold a common interest both for employers and workmen. "Seventy-five per cent. of all accidents" declared Mr. Woedtke, "are preventable, and of this number only from 20 to 25% can be prevented through mechanical contrivances, while from 75 to 80% can be prevented through caution by the workers and the employer. The real job in safety work is therefore education."



Accidents destroy morale as well as life. They sap the workers' spirit for days after

Among the significant figures cited were the following on the extent of accidents which were taken from the latest compilation of accident statistics of the Department of Labor in New York State, Bulletin 126, covering a period of one year from July 1, 1922, to June 30, 1923. They show that in New York State there were 58,078 compensable accidents from all industries combined.

Of the above number the construction industry contributed 10,230 cases, practically 18%. Of 10,327 permanent injuries in New York State during this one year period, the construction industry contributed 1,646 cases, practically 16% of all permanent injuries. Of 622 fatal accidents during this period, the construction industry contributed 177 cases, practically 27% of all fatal injuries.

With the exception of General Manufacturing Industries, with their larger numbers of employees who naturally had more total accidents, although less fatal ones, and Transportation and Public Utilities, which with a slightly larger total also had less fatal accidents, the Construction Industry led all others with a sad record of accidental injuries and deaths in New York State.

Accidents can be prevented, it was indicated, by incurring little extra cost on the part of employers and in most cases by the employment of very simple methods. Safety work requires the taking over of the responsibility by some efficient executive and the development of an internal organization specially designed to conduct it.

The speaker was at pains to point out the human aspects of accident prevention, stating that with the genuine and fine type of American employer the humanitarian appeal never fails to reach his heart. At the same time Mr. Woedtke emphasized the economic value of safety work as a straight business proposition. The employer often fails to realize the business value of safety work.

At the conclusion of the speaker's remarks President Stephen F. Voorhees of the New York Building Congress, stated that the Congress had already formed a committee on Safety which was rapidly getting this work under way.

Building Age and National Builder



It will surprise many Americans to know that Sydney, Australia, boasts a number of skyscrapers. Here is a group of our Australian building buddies enjoying their noonday meal at 150 ft. height. The view, the lunch and the company are all excellent



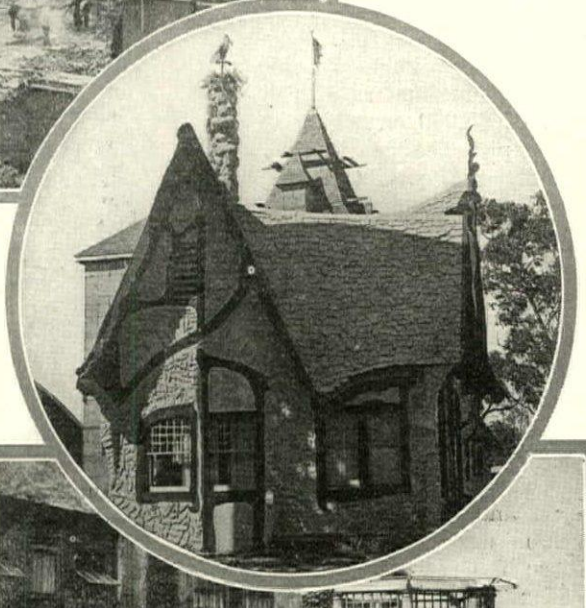
An Austrian nobleman makes his living and sees the country in this motor bungalow. In the Tyrolean cottage he lives with his family; in the rear annex is an assortment of many home-made candies which this migratory entrepreneur sells to village folks



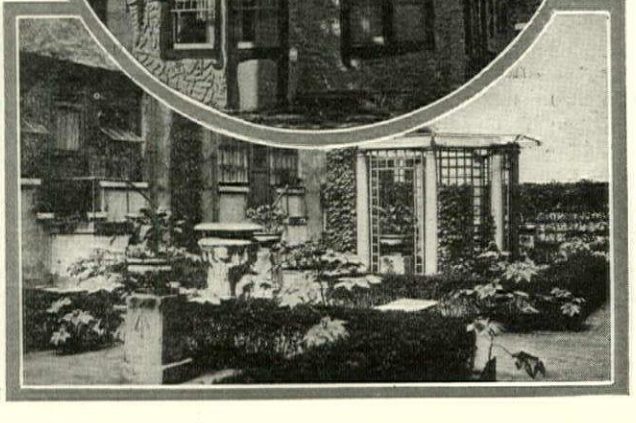
Modern machinery makes razing and excavating work easy in London, England, at the site of Lloyd's new main office building



(In circle) The proud possessor of this unusual home must be a Los Angeles dealer in curios and Oriental art

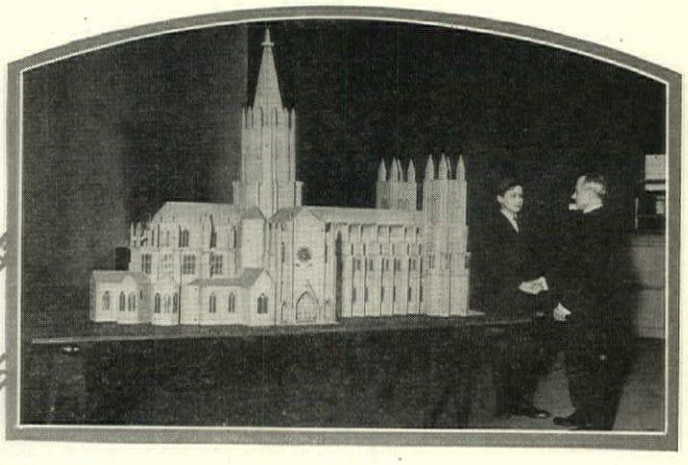


Milan, Italy, is also boasting skyscraper apartment houses. Here is one of the newest. Its counterpart is going up across the street



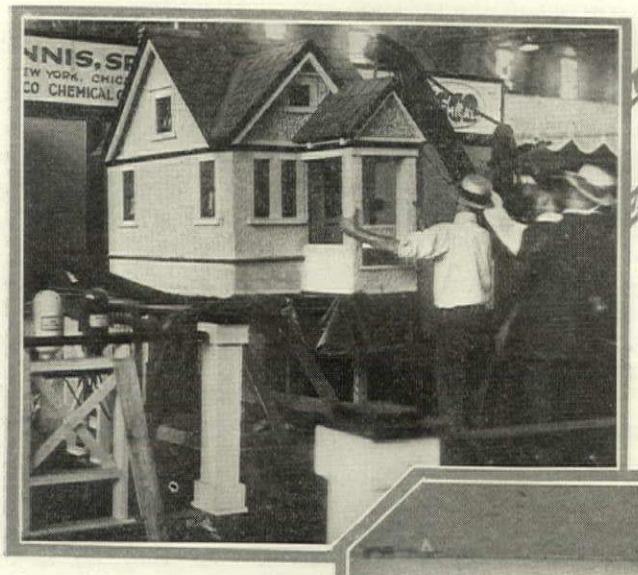
(Right) One of the gems of Greenwich Village, New York, that few tourists will stumble upon. This charming Italian garden lies in back of a studio settlement seldom seen

Pictorial



The drive for funds for completing New York's Cathedral inspired a Morristown, N. J., schoolboy, Thomas M. Emory, to build this cardboard model of St. John's

The General Motors Building in Detroit has lost its laurels as the world's largest building. The Furniture Mart, shown below, a $1,000,000 structure recently completed in Chicago, passes all construction figures

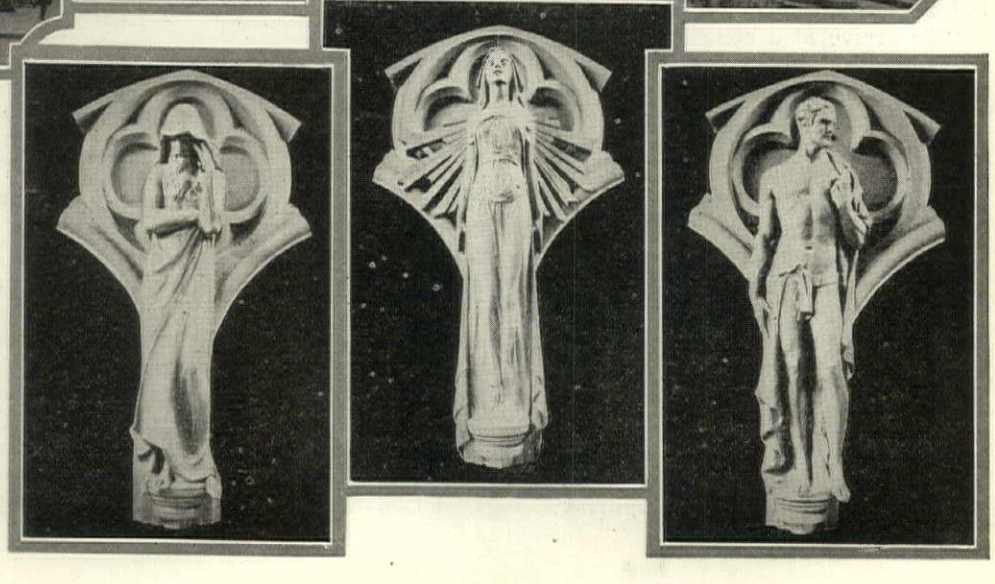


Models of houses always attract crowds at exhibitions. Here is one advertising a magnesite stucco





America somewhat neglects its historic shrines. Here is the present dilapidated condition of the last home of President James Monroe in New York. Funds are being solicited for its restoration



Concrete lends itself readily to artistic forms. Here are three fine examples of American sculpture by Clark that grace the entrance to the library of the University of Washington at Seattle. The sculptured figures symbolize, in the order shown, Knowledge, Inspiration and Mastery

Is There a Building Shortage?

SINCE BUILDING AGE AND NATIONAL BUILDER inaugurated, several years ago, a survey of the building situation, the idea has been widely adopted by various organizations, and this has done a real service by bringing to light and broadcasting much useful information regarding American construction.

In some quarters investigators have recently put forward the view that the building shortage has been met and that henceforth building will be on a normal basis. This view is diametrically opposed to that of BUILDING AGE AND NATIONAL BUILDER, which holds that the shortage will not be adequately met for several years.

However, when properly analyzed, the figures of these statisticians are found to embrace only projects designed and supervised by architects. This of course leaves out of the question entirely the very great mass of small building projects. And it is in this class of construction that a real shortage still exists.

In line with the data given by the different surveys, it is especially interesting to read an editorial published in the New York *Sun* of January 26, which corroborates the conclusion that the actual building shortage is increasing. The editorial reads as follows:

The Nation's Housing

"TO what extent has the activity in the building trade in recent years relieved the housing shortage? Has the deficit been wholly made up? Is there any danger of creating a surplus of housing in the near future? What is the outlook for the building industry in the next year, or in the next two or three years?

"Such questions are not easily answered. We are informed that in 1924 the value of buildings put up reached a higher total than in any previous year in the nation's history; that the amount surpassed even the record breaking total of 1923, which in turn had surpassed the record figure of 1922. But this information does not indicate the amount of work still to be done, and the figures, moreover, are apt to be very misleading.

"They represent dollar values, not physical quantities. They show, in other words, how much we have been spending for new houses, but they do not show how much new housing we have been getting. They must be considered in the light of the huge inflation of building costs.

"To arrive at a clear idea of the present situation it is necessary to know just how much housing has been constructed in terms of square feet, just how many square feet of housing is required for a given population, and what the population increase in recent years has been. An attempt to deal with the problem on this basis was recently made by statisticians in the office of W. R. Ingalls, formerly editor of the "Engineering and Mining Journal." These figures covered the period from 1909 to the end of 1922.

"Bringing the figures down to date, using the same sources of information and basis of figuring, gives some surprising results. The following table shows the total cost of new construction throughout the country in millions of dollars for each of the years from 1909 to 1924 inclusive, the total new construction in millions of square feet and the cumulative shortage in millions of square feet:

Year	Cost	Square Feet	Cumulative Shortage
1909	$1,839	903	+12
1910	1,745	831	—18
1911	1,653	795	+10
1912	1,782	831	....
1913	1,587	733	—271
1914	1,415	673	—382
1915	1,305	609	—380
1916	1,750	703	—321
1917	1,190	392	—564
1918	658	196	—693
1919	2,745	739	—662
1920	2,511	518	—691
1921	2,498	515	—1,025
1922	3,666	763	—1,048
1923	3,806	776	—1,243
1924	4,300	793	—1,420

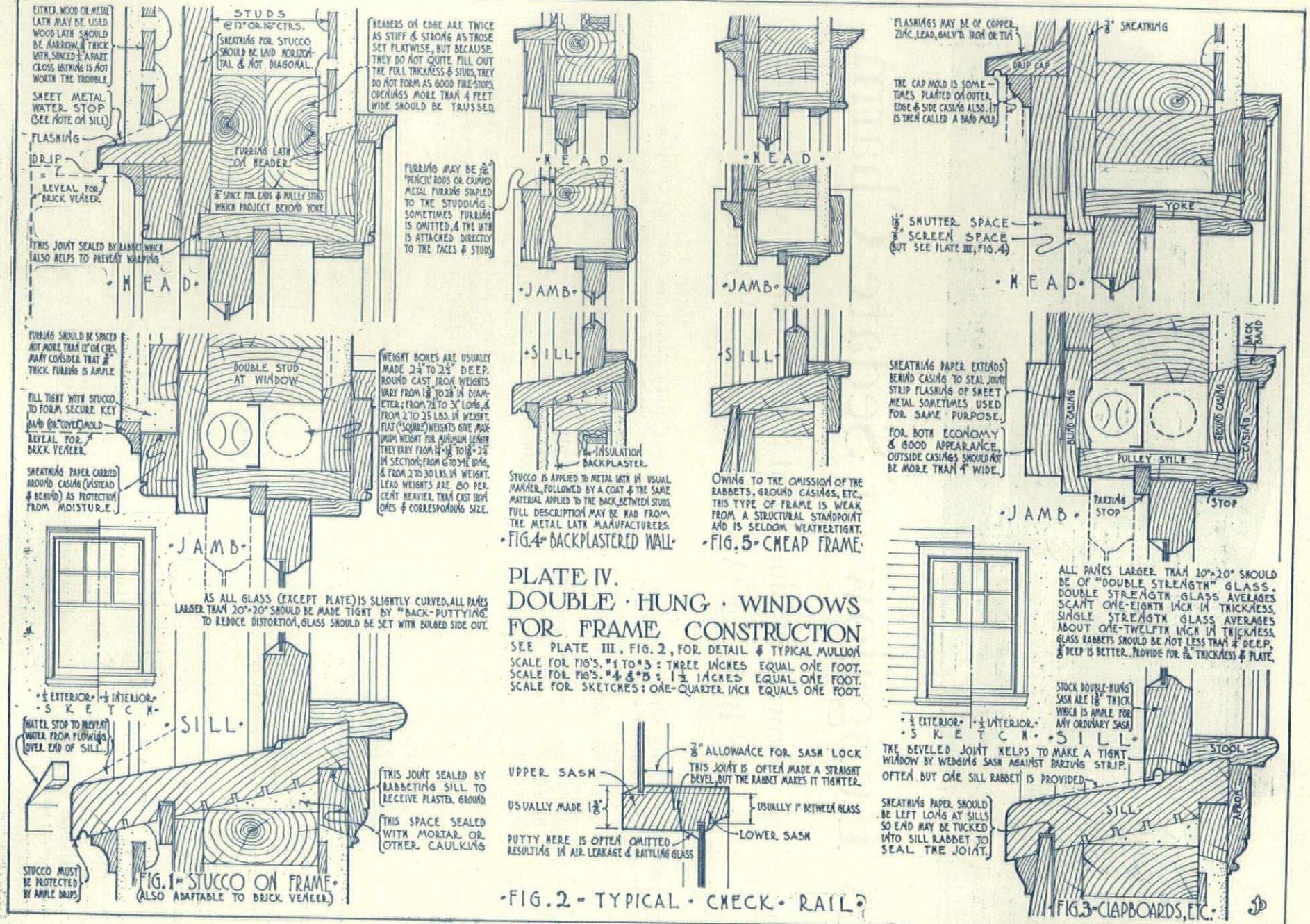
"The figures of values in the foregoing table are based on the compilations of *Bradstreet's* up to and including 1918. From 1919 on they are based on the compilations of the F. W. Dodge Company. Area of construction in square feet is based on the figures of the United States Geological Survey and those of the F. W. Dodge Company. The figures include industrial and business buildings as well as residences, but do not include public works and public utilities.

"In the last three years the country has been spending for new buildings an amount never approached before. But the building shortage, instead of being relieved, is indicated by these figures to be growing steadily worse.

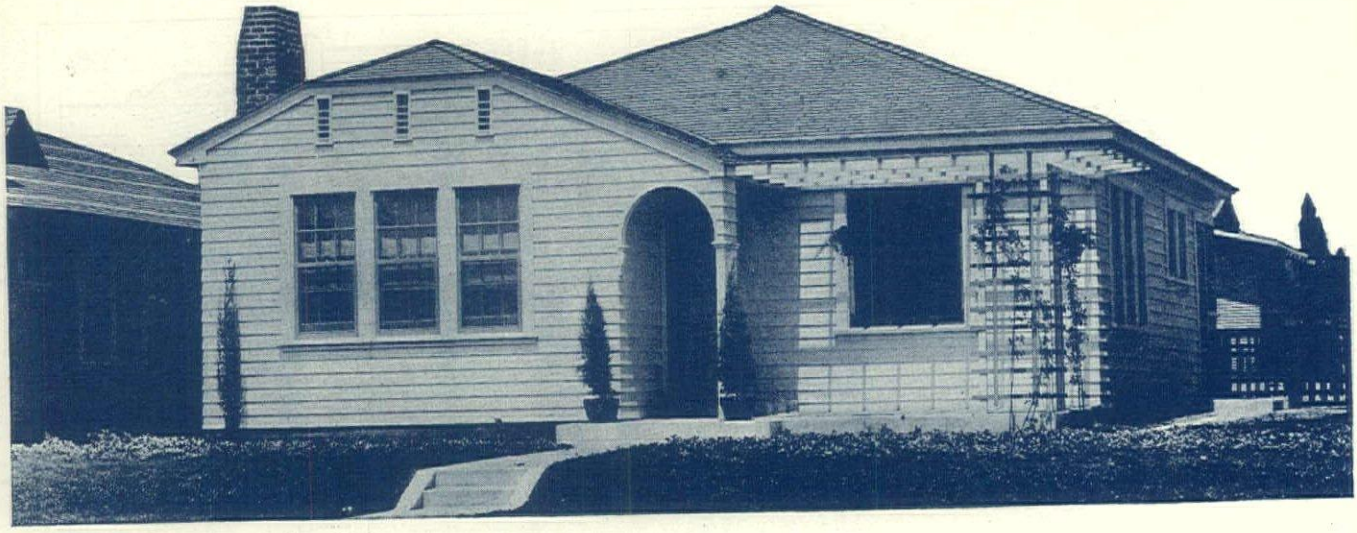
"These shortage figures do not necessarily mean that there may not be cases of local overbuilding, in certain classes of apartments, for instance. They do not necessarily mean, either, that anybody is out on the street. But they do mean that, taking the country as a whole, people are living closer together; that many people have three room apartments where they used to have five room apartments, that rooms are being built somewhat smaller than they were, that more people are living in older buildings.

"The cumulative shortage is calculated from the relation of population growth to the volume of building construction. It was assumed that the average construction in square feet per capita increase in population for the four years 1909 to 1912 (499 square feet) represented 'normal' building requirements. The accuracy of these building shortage calculations, therefore, depends to a large extent upon whether this assumption is justified or not. It is possible that the four years may have been more than 'normally' active.

"But certain significant facts stand out. Though the country paid for building in 1924 the unparalleled sum of $4,600,000,000 it secured only 793,000,000 square feet of new floor space. This, it is true, was the largest in eleven years, but it was exceeded by construction in each of the four years from 1909 to 1912. It took $2.51 in 1924 to buy as much building as $1 bought in 1913. There is enough work to be done to keep the building industry going at top speed for at least several years.



Drawn by Jim T. Pomeroy



A Bungalow of Sedate Charm

The Plans Shown on Blue Print Supplement Specially Drawn for Building Age and National Builder

THE secret of true simplicity consists in the proper subordination of details as well as in unity of conception. The bungalow pictured here exemplifies this rule very happily. There is a certain sedate charm about this five-room little home which is difficult to define but is instantly felt.

What could be simpler than the design as a whole or the materials employed? Yet the house is not devoid of those characteristic touches that lend beauty and identity. The gracefully arched and justly proportioned Colonial doorway, the trellis work, the three tiny vents, the balance and harmony of the main masses—all give character to this dwelling.

The white siding with shingle roof in dull green or brown makes an admirable color scheme. A couple of entrance pots and some creepers to break up the wall surfaces with their mottled effects of shadow give the final cheery touch. A welcome note of sturdy strength is lent the exterior by the interesting chimney of swell brick relieved here and there by stone fragments.

Outline of Specifications

EXTERIOR:

Walls to be wide bungalow siding on wood frame construction, sheathed and insulated.

Swell brick with rough hewn local stone is used for chimneys.

Steps and porch floor are of concrete, cement topping colored and blocked off in squares.

Walls and exterior trim are to be painted three coats.

ROOF:

Roof to be covered with shingles as selected by owner. Leaders should be rectangular in section, either galvanized iron, zinc, or copper.

WINDOWS:

All first floor sash and frames of wood—cellar sash and frames of steel.

INTERIOR TRIM:

Bedrooms and bathroom of poplar or white pine. Living room of mahogany. Dining room of oak. Living room and dining room doors are of oak; all others of white pine or Douglas fir.

PAINTING:

Living room walls papered, ceiling in relief paper and dining room walls plastered rough finish and tinted. Trim stained and waxed; ceiling tinted between beams in dining room.

Bedroom walls and ceiling papered, trim painted.

Closets and hall in cold water paint tinted to suit owner.

Bathroom walls and ceiling to be painted and enamelled in color to suit owner.

Kitchen walls and ceiling painted; trim enamelled.

Laundry to have painted wallboard partition finished with waterproof varnish.

Shiplap partitions for coal and wood storage painted with white cold water paint.

Ceiling in white cold water paint.

Cement floor painted with brown cement paint.

HEATING:

Heating to be of warm air with wide opening registers as indicated on plans.

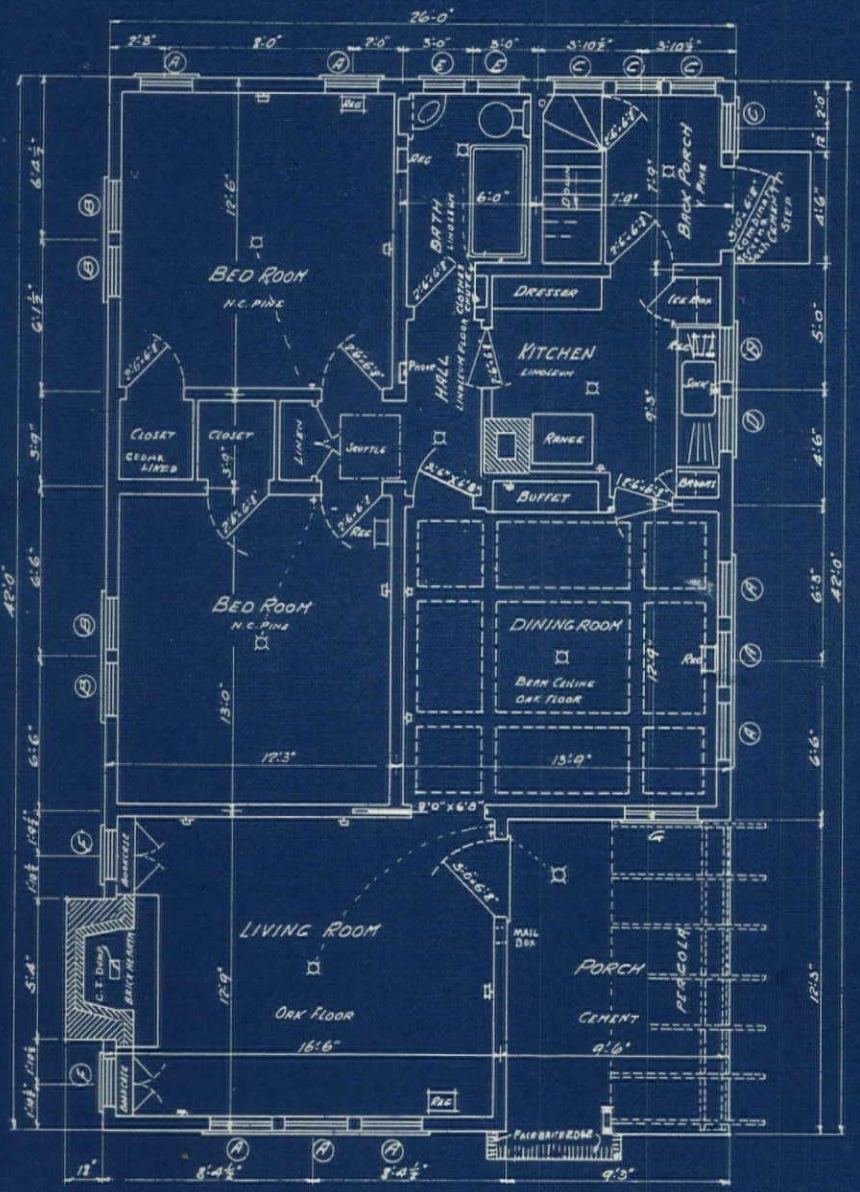
Temperature to be controlled by thermostat.

PLUMBING:

Sink, bathtub, and lavatory of enamelled iron.

Toilet and wash tubs of porcelain.

Drainage and vent pipes cast iron; brass water pipes.



FLOOR ~ PLAN

WINDOW SCHEDULE

A	2'3" x 4'6"
B	2'0" x 4'6"
C	1'9" x 4'0"
D	2'0" x 2'8"
E	1'6" x 2'6"
F	2'0" x 2'6" Art Glass
G	5'0" x 4'6"

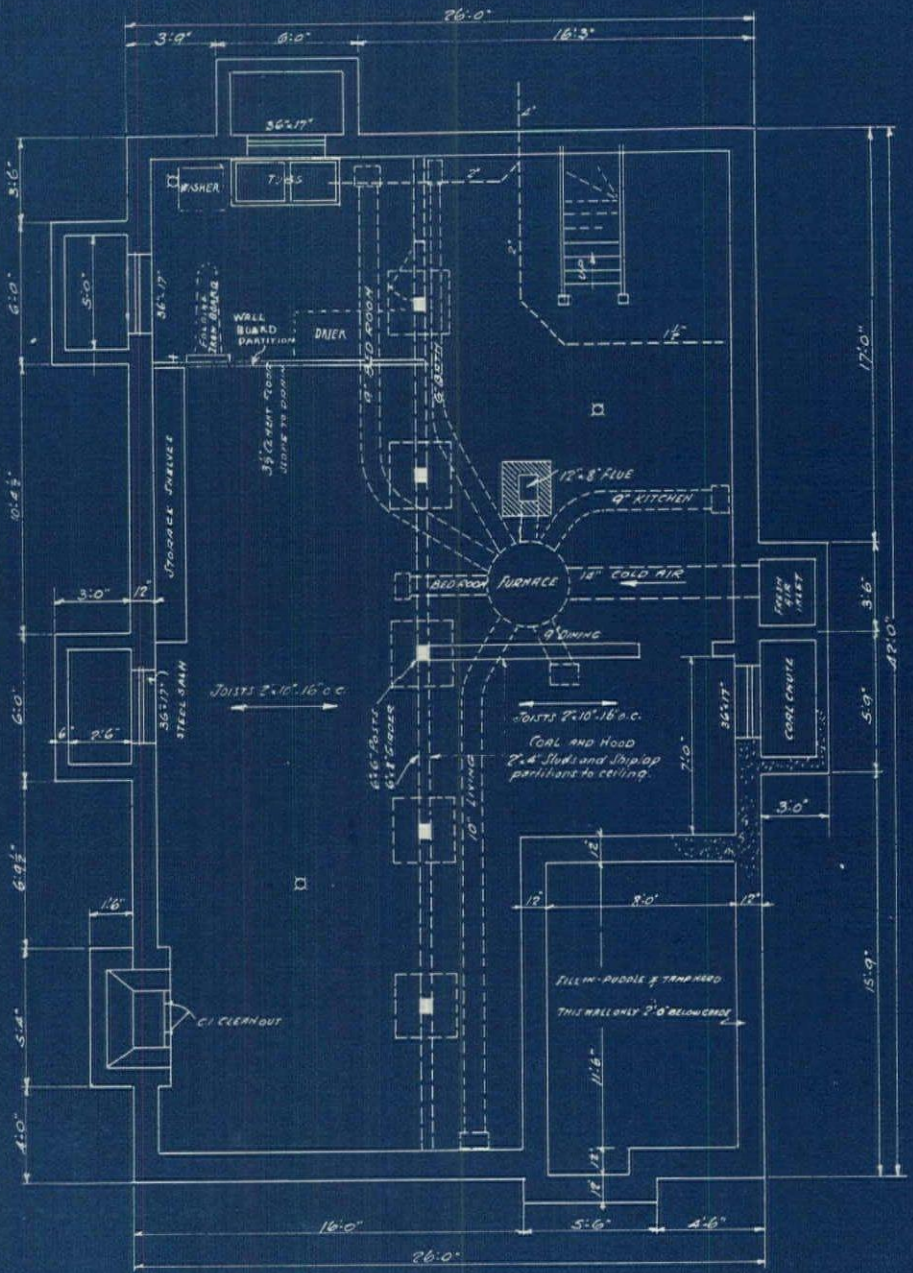
SCALE ~ ¼" = 1'0"

BUILDING AGE AND NATIONAL BUILDER WORKING DRAWINGS

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Drawn by P. Infante

Sheet
No. 1 of 5

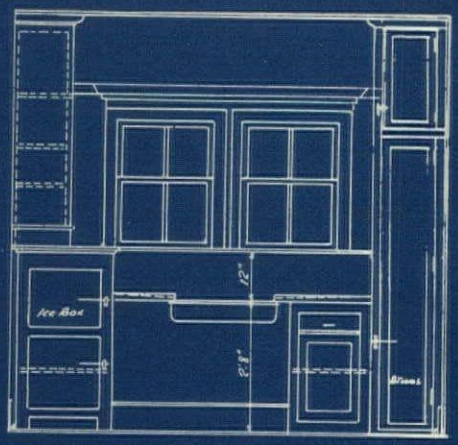


CELLAR ~ PLAN

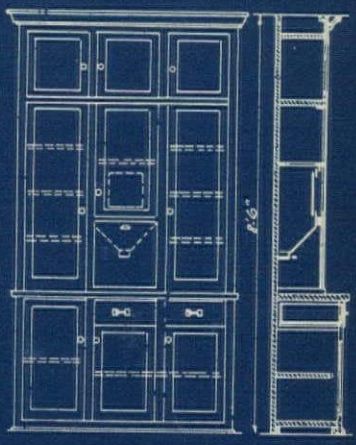
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BUILDING AGE AND NATIONAL BUILDER WORKING DRAWINGS

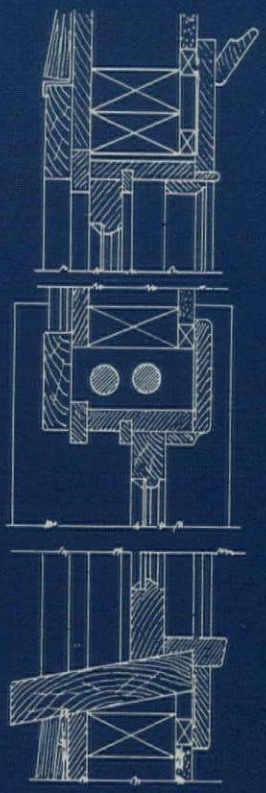
Drawn by P. Infante



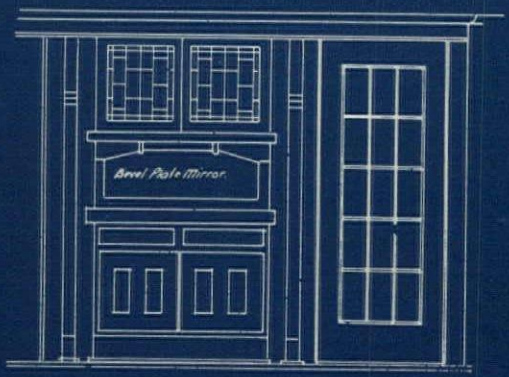
~KITCHEN CUPBOARD, SINK, & ICEBOX~



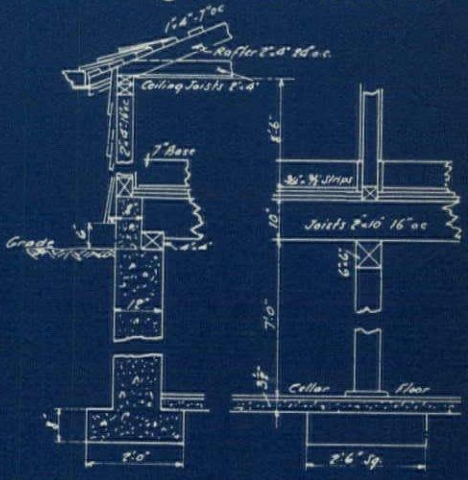
~KITCHEN CABINET~



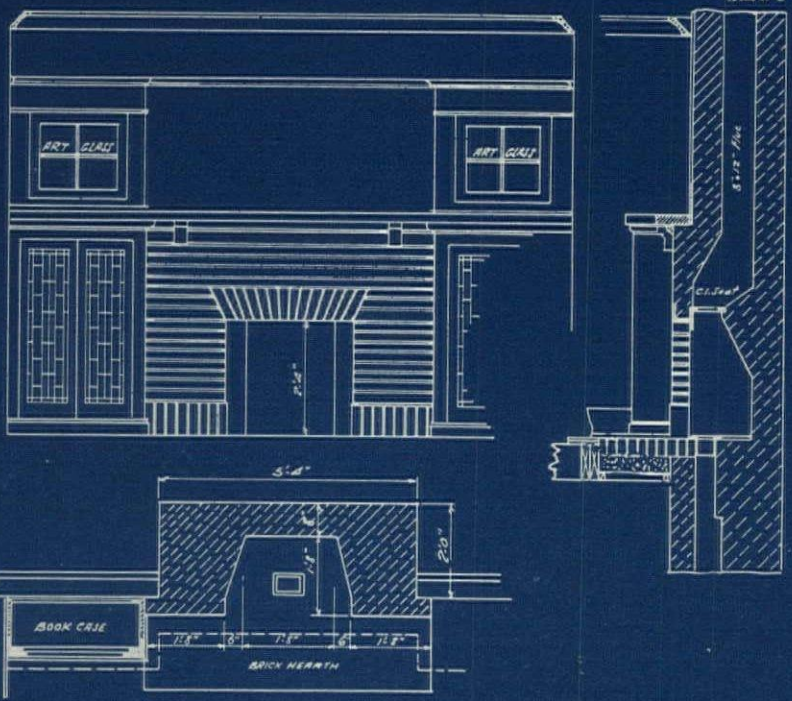
~WINDOW FRAMES~
Scale 3"=1'0"



~BUFFET & DOOR~



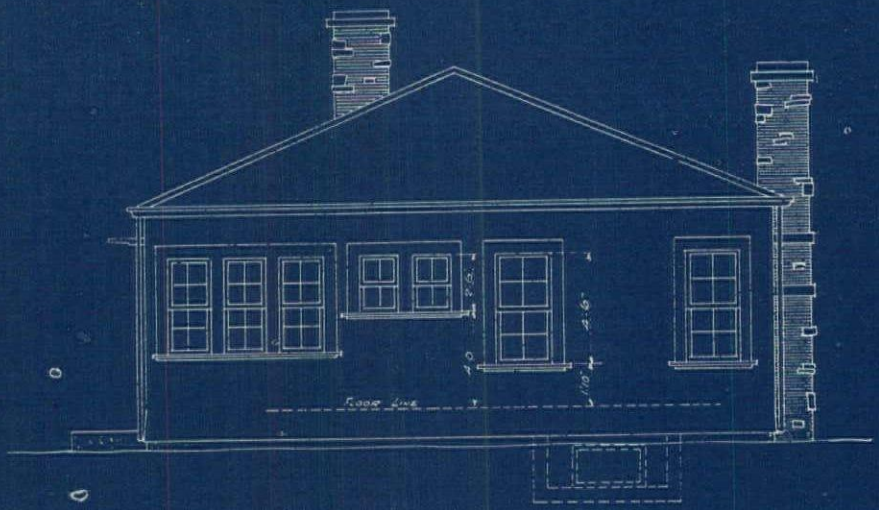
~SECTION THROUGH WALL~



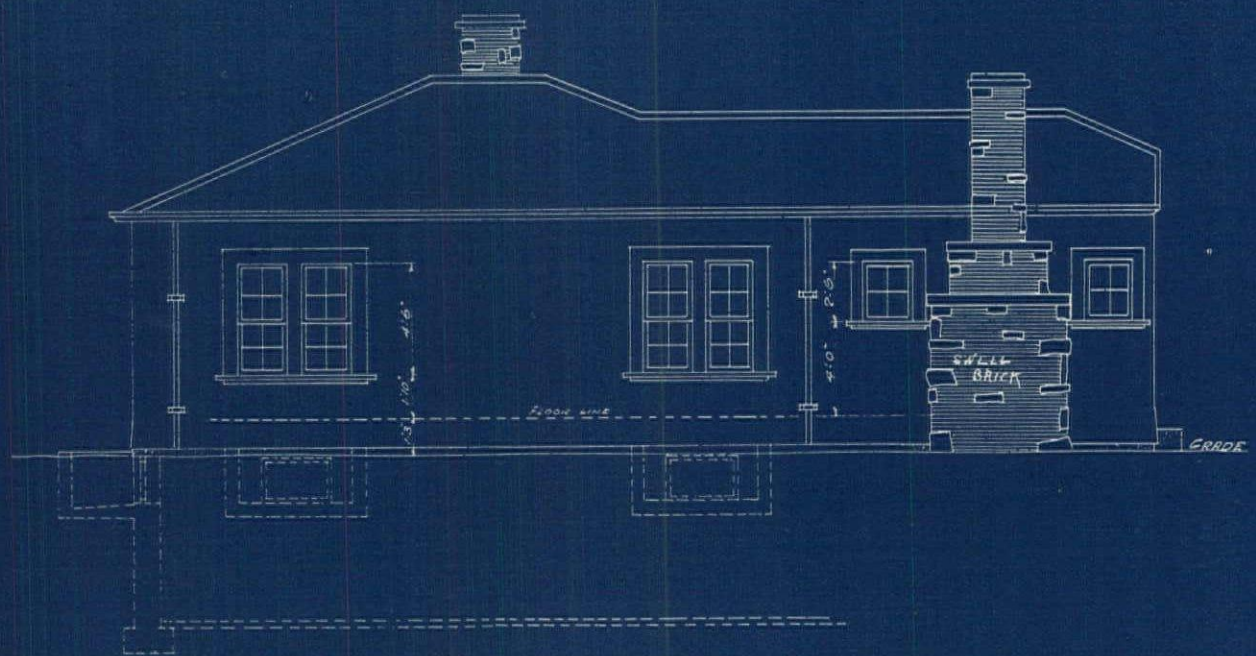
~DETAILS OF MANTEL & BOOKCASE~

~SCALE-½"=1'0"~

BUILDING AGE AND NATIONAL BUILDER
WORKING DRAWINGS

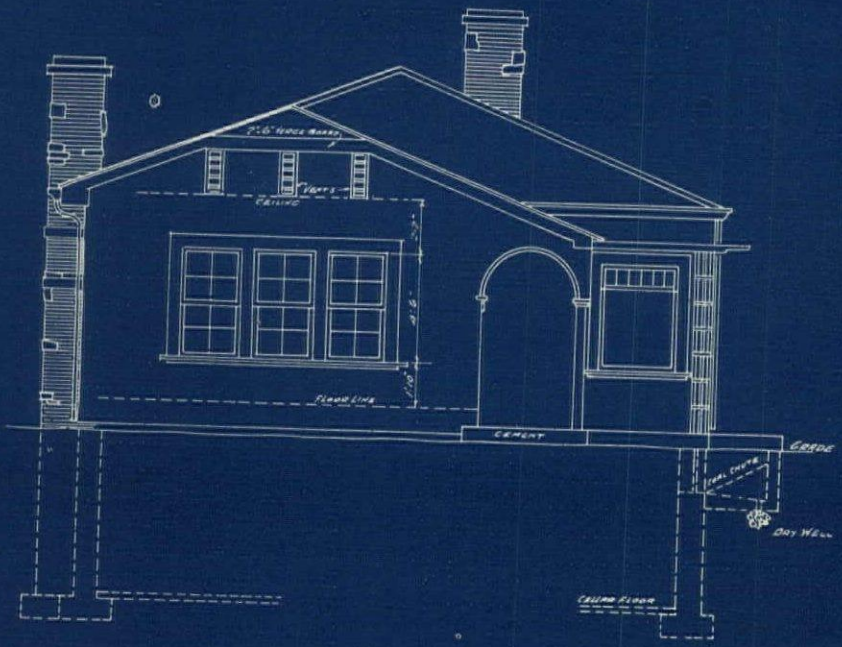


REAR ELEVATION

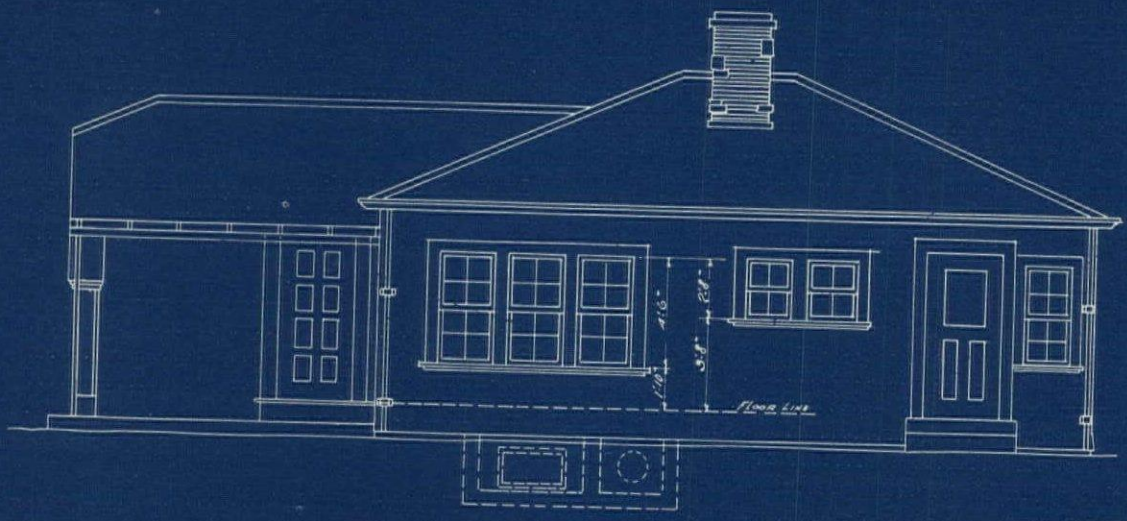


LEFT SIDE ELEVATION

SCALE - 1/4" = 1'-0"



FRONT ELEVATION



RIGHT SIDE ELEVATION

SCALE- 1/4" = 1'0"

BUILDING AGE AND NATIONAL BUILDER
WORKING DRAWINGS
Drawn by P. Infante

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No. 5 of 5

Quantity Survey of Materials

Prepared by Walter J. Fradgley

For the Bungalow of Sedate Charm

EXCAVATION

Basement (one foot larger than wall measurement)	320 cu. yds.
Areas, trenches, and pier footings	28 cu. yds.

MASONRY AND IRON WORK

Concrete foundation walls and footings	1521 cu. ft.
Concrete porch floor, 4" thick, 6" cinder fill	140 sq. ft.
Concrete basement floor, 3" thick, 4" cinder fill	921 sq. ft.
Cement step—rear entrance	24 cu. ft.
Face brick for chimneys	1120 brick
Common brick for chimneys	2408 brick
Stone inserts for chimneys	20 cu. ft.
Flue lining, 8"x12"	32 cu. ft.
Face brick for fireplace	200 brick
Fire brick for fireplace	142 brick
Fireplace damper	1 piece
Ash dump	1 piece
Cast iron cleanout door and frame	1 piece
Wall plate anchors	30 piece
Cast iron coal hole frame and cover	1 piece
Plaster on all interior walls and ceilings	408 sq. yds.
Metal or wood lath to cover (Omit if wall board is used.)	408 sq. yds.

CARPENTRY

6"x6" Posts	108 bd. ft.
6"x8" Basement girders	168 bd. ft.
4"x4" Wall plates	187 bd. ft.
2"x10" 1st floor joist	1160 bd. ft.
2"x4" Ceiling joist	555 bd. ft.
2"x4" Roof rafters	893 bd. ft.
1"x3" Floor bridging	30 bd. ft.
2"x4" Exterior studding and plates	1003 bd. ft.
2"x4" Interior studding and plates	936 bd. ft.
1"x6" Rough flooring	1037 bd. ft.
2¼" Face finish floors	1152 bd. ft.
Floor paper under finished floor	9 squares
1"x4" Roof boards	742 bd. ft.
Wood shingles	11000 shingles
1"x8" Shiplap sheathing	1502 bd. ft.
Building paper over exterior walls	14 squares
Lap siding	1565 bd. ft.
Furring and ground	150 bd. ft.
⅝" Matched and beaded ceiling front porch	162 bd. ft.
2"x4" Pergola rafters	43 bd. ft.
2"x6" Pergola rafter beams	28 bd. ft.
1"x4" Underhanging gutter	100 bd. ft.
2"x8" Verge board	56 bd. ft.
1"x6" Cut-between rafters	60 bd. ft.

STAIRS

First floor to basement	1 flight

MILL WORK

Closet shelving	30 bd. ft
Chair rail—kitchen and bath	64 lin. ft.
Hook strip for closets	20 lin. ft.
Base and quarter round	340 lin. ft.
Picture mould	196 lin. ft.
Book cases	2 pieces
Wood mantel shelf	1 piece
Buffet	1 piece
Kitchen cupboard, sink and ice box	6 pieces
Kitchen dresser	1 piece
Clothes chute	1 piece
Medicine case	1 piece
Linen case	1 piece
Beamed ceiling—dining room	108 lin ft.
Scuttle door and frame and trim	1 open'g
Outside doors, frames and trim complete	2 opn'gs
Inside doors, frames and trim complete	11 opn'gs
Casement windows, frames and trim complete	2 opn'gs
Mullion casement windows, frames and trim complete	2 opn'gs
Windows, frames and trim complete	4 opn'gs
Mullion windows, frames and trim complete	2 opn'gs
Triple windows, frame and trim complete	3 opn'gs
Basement windows, frames and trim complete	4 opn'gs
Front porch pergola post	1 piece
Front porch post	1 piece
Front porch entrance arch frame	1 piece
Gable vents	3 opn'gs
Wall board (if used instead of lath and plaster)	3700 sq. ft.

PAINTING

Exterior woodwork	22 squares
Interior woodwork	22 squares
Finished floors	10 squares

SHEET METAL

Gutters	112 lin. ft.
Down spouts	50 lin. ft.
Chimney flashing	21 lin. ft.
Metal ridge roll	102 lin. ft.

HARDWARE

4"x4" Exterior door butts	3 pairs
Exterior door lock sets	2 sets
3½x3½ Interior door butts	7 pairs
Interior door lock sets	7 sets
3½x3½ Casement sash butts	6 pairs
Casement fasteners	6 pieces
Double acting door hinges	3 sets
Door bumpers	9 pieces
Coat hooks	2 dozen
2½x2 butts, bookcases, kitchen case, etc	27 pairs
Cupboard catches, bookcases, kitchen case, etc.	21 pieces
Drawer pulls	4 sets
Basement sash hardware	4 sets
Sash pulleys	68 pieces
Sash lifts	17 pieces
Sash locks	17 pieces

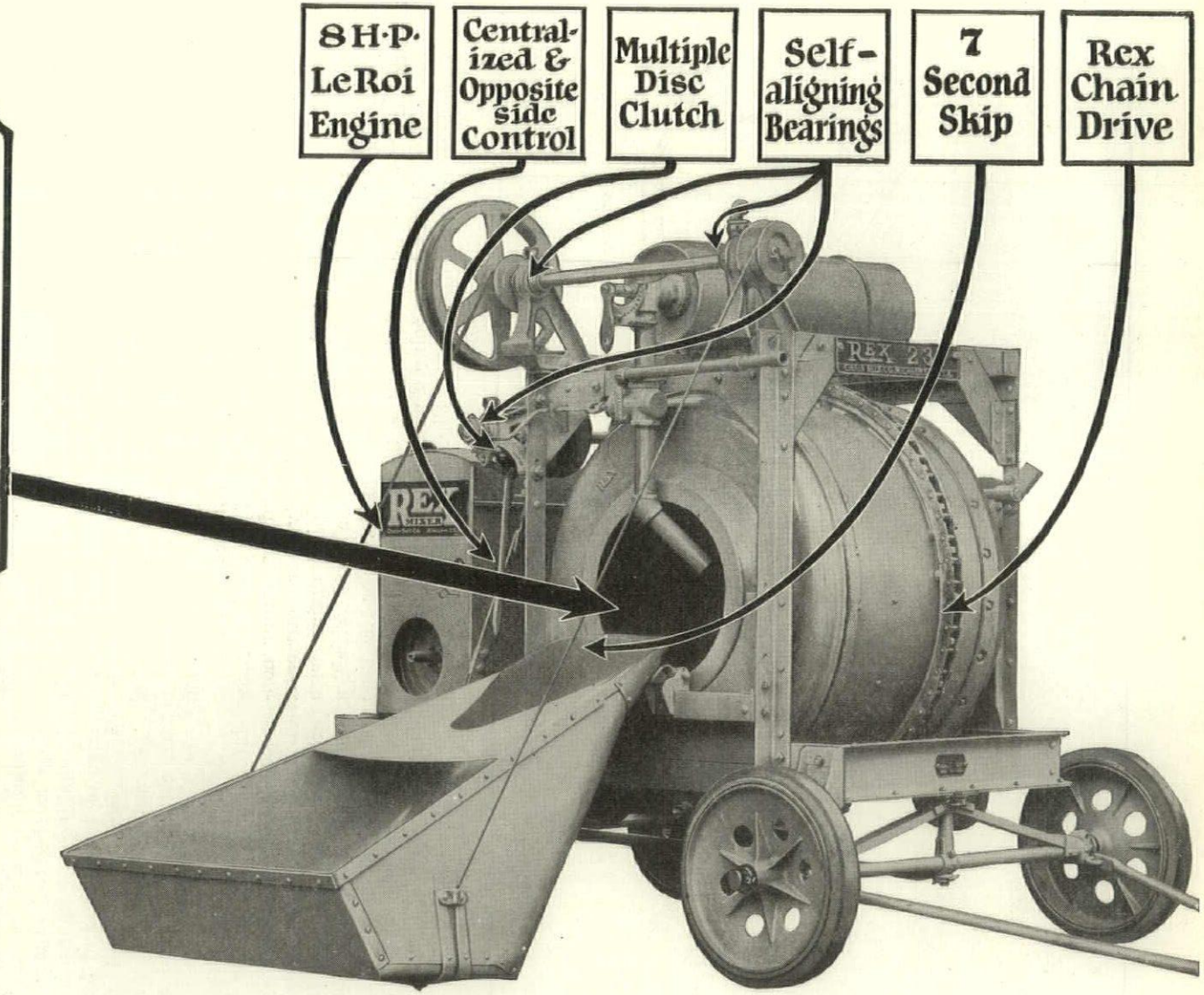
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CARPENTRY

Good Practice in Frame Construction and Finish

Using Small Squares on Large Braces

By Ed Davis

FREQUENTLY the carpenter is called upon to lay off a brace apparently beyond the limits of his square. This particular brace is part of a grand stand and the carpenter found its design of difficult solution.

If a piece of bridging is to be laid off with a steel square for 2″ x 10″ joists, spaced 16″ on centers, for example, the solution is one familiar to many contractors. Assuming that a 2″ x 10″ joist is actually 1⅝″ x 9½″, then the distance between joists would be 14⅜″—the run of a piece of bridging. Referring to Fig. 1, it is seen that the rise of the piece of bridging is the width of the joist or 9½″.

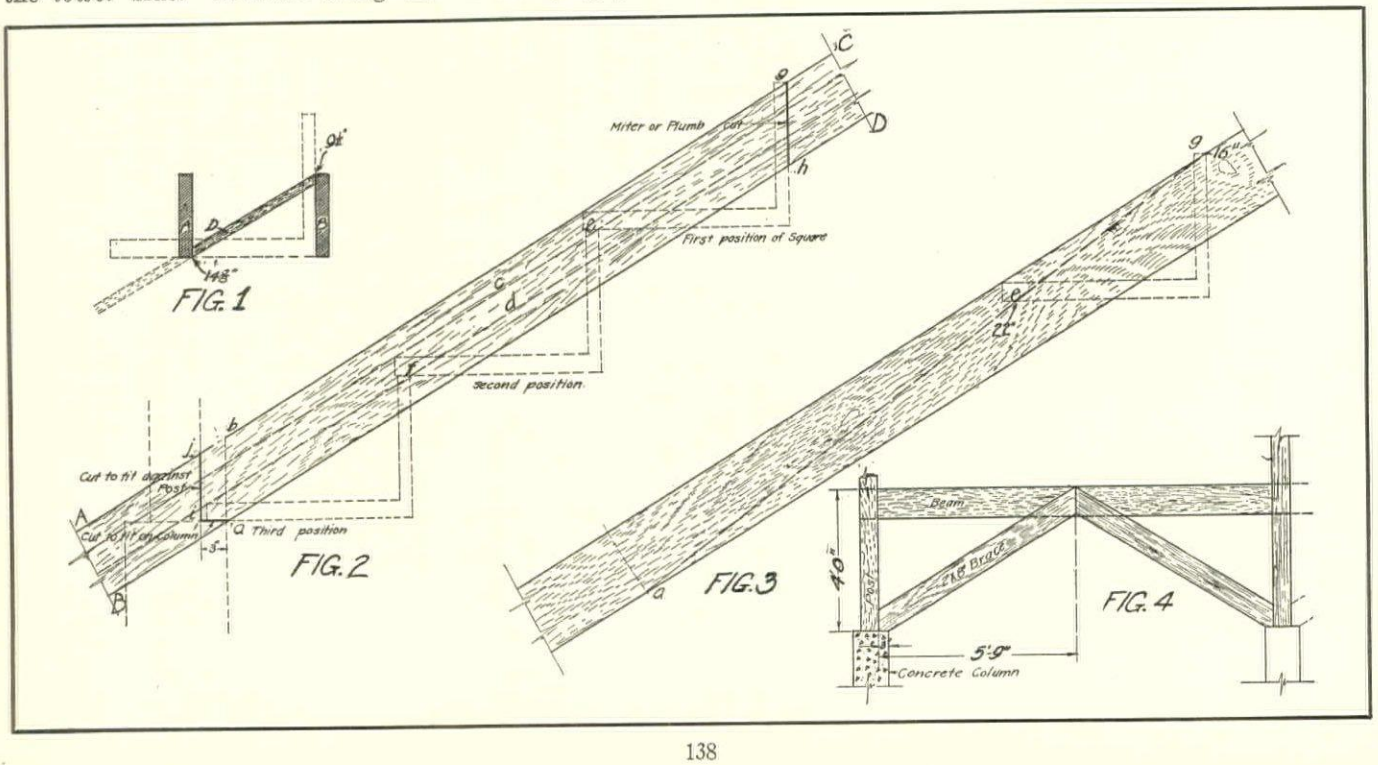
The square is applied to bridging as shown with 9½″ on tongue and 14⅜″ on blade—the tongue mark held against the *upper* side of the piece and the blade mark against the *lower* side. A mark along the tongue gives us the cut that will fit accurately against the joists (A) and (B) and the length, of course, is the diagonal of 9½″ and 14⅜″. Notice, however, that the length of the bridging is the diagonal (D), a different meaning than that we apply to the length of rafters. A study of this figure will explain why cuts on bridging and other braces often do not fit or are too long when marked off with a steel square.

The problem of laying off braces for a grand stand or similar construction is hardly more intricate. Fig. 2 shows a typical design with (ABCD) the piece from which a brace is to be made. For the time being, the 3″ cut that fits on the column will be neglected. A glance back at Fig. 1 will show that part of brace (abgh) is identical with the piece of bridging having a run of 5′ 6″ and a rise of 4′ 0″. In the same proportion, the diagonal (ag) is the length of the measurement line.

A square with a tongue 4′ long and a blade 5½′ long, if one were available, could be applied to the piece as the steel square was in Fig. 1—making a 4′ mark on the upper edge of the piece and 5½′ mark on the lower edge. The 4′ mark would designate the plumb or miter cut while the length to (a) would measure 9½′.

As in the case of a rafter, a similar triangle within the limits of a steel square may be used here. Divide the rise, 48″, by three; the resulting 16″ is the tongue measurement. Divide the run, 66″, by three; 22″ on the blade. Since three is the common divisor these numbers 16″ and 22″ properly applied to the piece with the steel square

(*Continued on page* 142)





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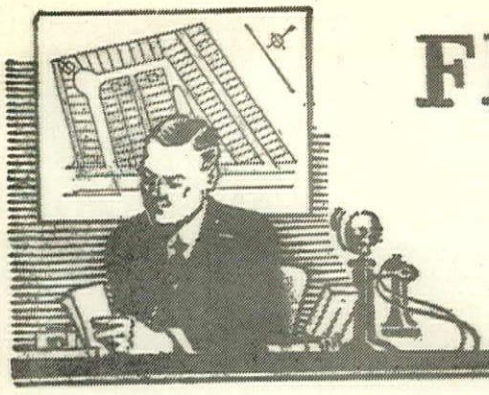
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FINANCE and REAL ESTATE

Helpful Data for the Builder Who Builds to Sell

Time Payment Plan is Applied to Painting of Homes

INTERESTING in its details, aims and implications is a plan worked out at a meeting of the Save the Surface Campaign Executive Committee in Philadelphia, whereby facilities are now available enabling painters to have painting contracts financed anywhere in the country.

The plan as proposed by this Campaign has been accepted by two finance companies, namely, the Aetna Finance Company of Philadelphia, and the Commercial Credit Company of Baltimore.

The arrangements with these companies provide

"1. That no painter, dealer, or any marketing agency becomes an endorser or guarantor of the paper.

"2. They will make no special arrangements with any paint and varnish firm, but render the same service to all under the same terms.

"3. Having satisfied itself regarding the high standard of these companies, the Save the Surface Campaign suggests that the trade utilize the facilities of these two firms and will extend its cooperation to these two companies exclusively in 1925, but the Campaign shall in no way be responsible or liable for the transactions of these companies."

The partial payment plan for painting as adopted by these two companies is as follows:

"Painter finds home owner who desires to paint and pay for same over a period of time.

"Painter submits estimate in writing to the home owner, and if satisfactory the owner is asked to sign a contract in which he agrees to make a cash payment of at least one-fifth of the amount of the contract to the painter, and the balance to the finance company in not more than ten equal monthly payments.

"Having secured the contract signed, the painter asks for certain credit information on a standard credit information blank, furnished by the finance company.

"This credit information blank is submitted to the finance company, which promptly investigates the credit of the owner. Painter is notified if credit has been accepted or rejected. For each credit investigation the painter pays $1.50 to the finance company.

"The painter collects the cash payment of at least one-fifth of the amount of the contract from the owner either before starting work—when the first coat has been applied—or on completion of the job, according to the arrangements he can make.

"On completion of the work the painter mails the bill made out in the name of the owner, to finance company. This bill shows the total amount of the contract, the amount paid, and the balance due.

"The finance company mails bill to the owner for approval. On receipt of approved bill from the owner, the finance company pays to the painter 87½% of the amount still due, retaining 12½%, which includes the charge for service to painter and interest. No reserve is held by the finance company.

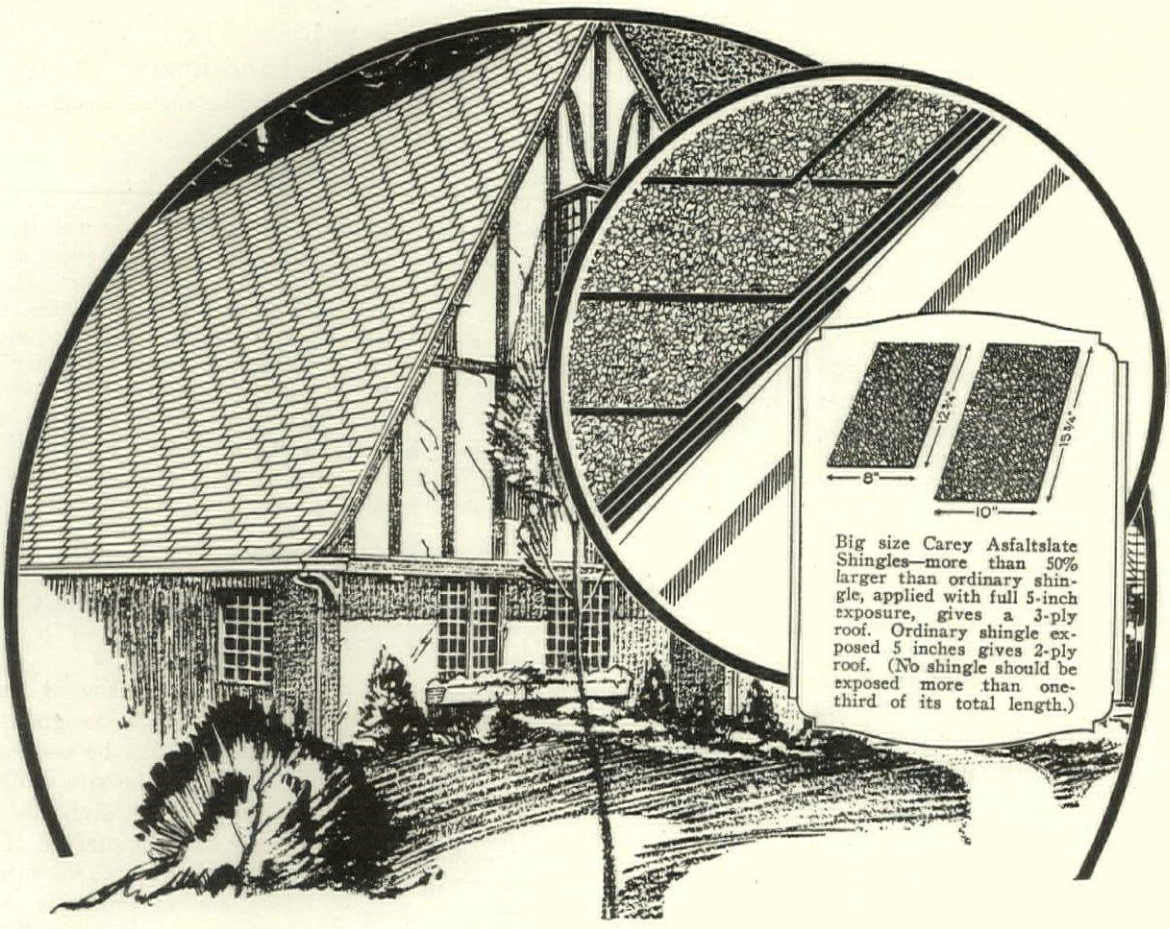
"In figuring the contract price to the owner, the painter takes into consideration the cost of financing by adding 12% of the estimated cost of the job.

SELLING on the installment plan has made a success of the selling of household goods, books, phonographs, pianos, automobiles, etc. The merchandising principle is sound and in a small way it has been applied to buying a house, but it has never come in general use in buying the necessary repairs for the preservation of a house or its remodeling.

If the owner does not have the ready cash to go on with the improvement the job is not done. Make it easy for the people to buy remodeling and repairs. BUILDING AGE AND NATIONAL BUILDER has advocated this from time to time.

Here is a plan devised by the paint industry to increase sales. Its method is sound in principle and it is bound to be successful. It will result in more work for painters—more paint supplies sold by manufacturers, better looking houses and better satisfied owners. Good is created all around.

The BIG SIZE offers the BIGGER VALUE you're looking for



Big size Carey Asfaltslate Shingles—more than 50% larger than ordinary shingle, applied with full 5-inch exposure, gives a 3-ply roof. Ordinary shingle exposed 5 inches gives 2-ply roof. (No shingle should be exposed more than one-third of its total length.)

WHEN you use the BIG SIZE Carey Asfaltslate Shingle on one of your jobs you are giving more roof value for the money your client pays you. This shingle makes a better roof because it is heavier (weighing approximately 300 pounds to the square) and thicker (it makes a very deep shadow line).

This BIG SIZE Shingle is 10 by 15¾ inches, and allows a 5 inch exposure, yet gives a three-thickness roof. This means quick, easy, economical application. You save time and nails—and you serve your customers better.

And, of course, you have the most valuable sales argument in the building industry—"the Shingle that Never Curls." This shingle is generally preferred.

In the new and distinctive silver-green, blue-black and red—natural slate surface. Use the BIG SIZE Carey Asfaltslate Shingle on ALL your jobs. Ask your supply dealer, or write us. We'll see that you are supplied promptly. The coupon will bring the information.

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Gentlemen: Please send copy of "Before You Build" booklet to

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Address .....

THERE is no sound reason why the same beneficial results cannot be applied to other items of building repair work.

A new bathroom should be added to the house—$500, however, in a lump sum is lacking. A new breakfast nook should be installed besides a new kitchen dresser—the $150 is not available in the lump sum; and so it goes down the list.

It is good merchandising to make it easy for the people to buy. The installment plan will do it. Local banks or credit associations should get behind and finance the owners and builders of their community. It means local prosperity and all around satisfaction. There is much in this article for everyone to think about.

"This 12% is equivalent to the finance charge of 10% of the unpaid balance plus an interest charge of 2½% of the unpaid balance and the investigation charge of $1.50.

"The painting contract is a direct obligation on the part of the owner to pay the unpaid balance to the finance company. Neither the painter nor any agency of the paint and varnish industry becomes an endorser or guarantor, or in any way contingently liable for payment due the finance company."

Ernest T. Trigg, chairman of the Campaign, in explaining the position of the Save the Surface Campaign, states:

"The Save the Surface Campaign proposed the partial payment plan to the trade. It took like wildfire, and could not be stopped now if we wanted to stop it. The Save the Surface Campaign therefore has a responsibility to direct the application of this method along right channels. If not given national direction, many different plans would be submitted by finance companies. Dealers and painters would become endorsers of the paper and cause a very unfortunate condition. As it is, the Save the Surface Campaign will give supervision so that a uniform plan with proper safeguards is adopted."

The Campaign sub-committee in charge of this work plans to make detailed information regarding the partial payment plan available as soon as possible to manufacturers, enabling them, if they wish, to transmit the details of the plan to their dealer and painter customers, and thus get the maximum benefit through increased sales during the immediate winter months. The plan will be personally explained to the industry wherever possible. It is proposed to hold meetings in each Federal Reserve city, preferably under the auspices of the Paint, Oil and Varnish Club in each of these cities. The public will be advised through a special publicity campaign. The committe, while confident of the ultimate benefit to the paint and varnish industry, believes that united effort on the part of the manufacturers will be very desirable.

The application of the time payment plan to the painting of homes points the way for other industries. The plan itself is long out of the experimental stage and its soundness has been proved conclusively. As time goes on it will no doubt spread to other building trades, permitting more regular house repairs and remodeling, thus resulting in better preserved and more modern homes. By creating better satisfied owners and stimulating business in the business industry the plan cannot but exert a beneficent influence.

Small Squares on Large Braces

(*Continued from page* 138)

will give the plumb or miter cut and locate point (a) on the brace.

Divide the brace with pencil or marking gauge into three equal parts—lines (c) and (d) parallel to (AB) and (CD). The first position of the square at upper right of Fig. 2 is determined by the 16″ mark on tongue against the upper edge and the 22″ mark of blade on line (c). Locate point (e) and draw (gh), the miter or plumb line.

The square is held in its second position with the 16″ mark at (e) and the 22″ mark on line (d), determining point (f). The third position of the square is determined in the same manner, with the tongue mark at (f) and the blade mark on the lower edge of the brace. From (a) draw along blade 3″ to the left and draw (ij) parallel to (gh).

A diagonal drawn from (a) to (g) will cut the two proportion lines at (e) and (f). Another method of locating this diagonal is shown in Fig. 3. First, arithmetically determine the hypotenuse of a triangle of base 5′ 6″ and altitude 4′ 0″. With a tape or stick length of this measurement and (g) as a center, strike an arc locating (a) on the lower edge of the brace. With (ag) as the diagonal the steel square may be applied as in the case of Fig. 2, with tongue and blade lengths.

We have in Fig. 4 another example of brace design with which this method can be used advantageously. Here the run is 69″ and the rise 48″, both divisable by three. Laying out the surface of the brace into three equal parts with two parallel lines as shown in Fig. 2, we apply the square to its first position in a similar manner, only, using this time 23″ on the blade instead of 22″.

The application of this practice of brace design is practically without limits. We must only first determine the best common divisor for the run and rise and the width of the brace. Once a convenient set of measurements is established the steel square may be placed in as many successive positions as are needed to complete the work. For unusually long braces and where the cuts must be of special accuracy, it is best as a preliminary step to plot the work on paper and determine the length of the diagonal. This length may then be laid off without the danger of progressive errors. For ordinary work, however, the method illustrated in Fig. 2 is the quicker and more satisfactory. If careful measurements are taken and the results accurately plotted, the carpenter will find his finished braces able to withstand the most rigid inspection.

ATKINS SILVER STEEL SAWS

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The Four Hundred Saw pictured on this page is in demand by master carpenters and artisans who want something above the average in quality and finish.



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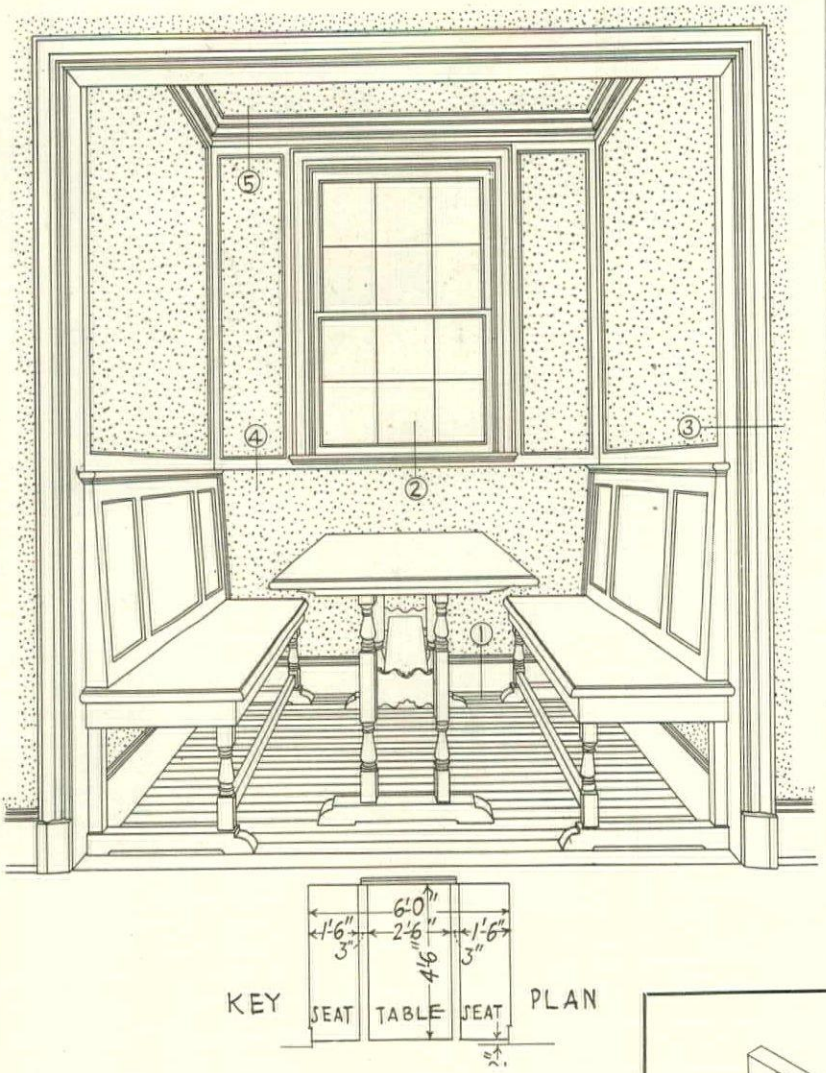
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How to Use Wall Board *for* Artistic Interiors



CARRIED along in the widespread trend toward more comfortable homes and given further impetus by the demand for attractive kitchens, the breakfast nook continues to gain in popularity. The plans for more than one new home include a corner for the breakfast set while the old home finds room for one in some unused portion of the house.

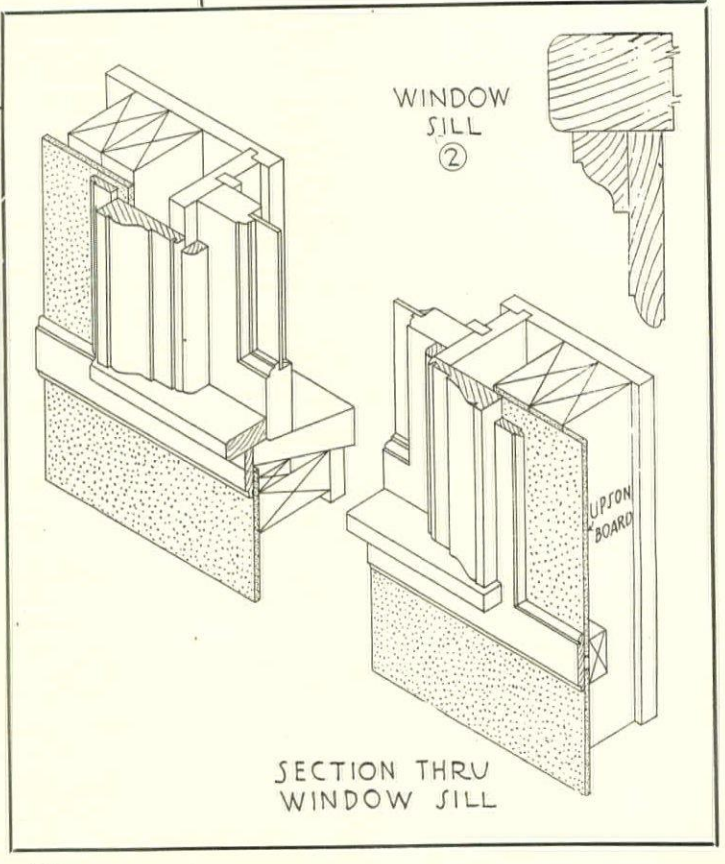
Just off the kitchen in a bright, sunshiny nook, the breakfast corner is often the cheeriest of the home. An even more charming arrangement places the table and benches in a little room in calling distance of the kitchen. There, the morning meal is enjoyed with the food in preparation within convenient reach.

Whether built in the home originally or added as a pleasant afterthought, the breakfast corner demands two dominating qualities—it must be bright and cheery. Upon the selection of the location and the decorative scheme depends its success or failure.

Daylight, by far superior to artificial lighting at breakfast time, can usually be worked into the plans, even though a window must be cut for the purpose. If possible, the opening should be made just over the end of the table rather than above the bench on either side. Have windows high enough to clear table.

The treatment of the walls is best carried out in some soft attractive hue; not too sombre or too glaring. For example, putty or a warm gray with woodwork of a lighter tone. Then, the curtains must be of some bright material, probably cretonne with dominating tints of blue and orange. But these suggestions anticipate the building of the nook.

The design and details illustrated here have walls and ceiling of extra-heavy wallboard panels. This treatment is advantageous; in particular, with reference to the tone effects desired. Panelling is always good interior decoration—always a simple and effective means of introducing a warm and mellowed note into design that otherwise tends to be cold and barren.





I would have bought that house *but for one thing–*

"I turned the faucet in the bathroom while the real estate agent was showing us around. The water was rusty—even in this new house. I knew what *that* meant. Uninviting, discolored water. Pipes rusting in the walls. Trouble ahead. Expensive repairs and replacements. Not for me!"

Houses equipped with Anaconda Brass Pipe are more salable because a man who buys wants to be assured of perfect water service. He wants clear, clean water —and not plumbing repair bills. He wants rustless Anaconda Brass Pipe.

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For Building a Well Designed Dining Nook of Wall Board Here are Complete Detail Working Drawings

A kitchen nook brings out this point in vivid reality. Whether it is to be bright and cheery or light and glaring depends to a large measure on the decorative panelling.

The method of applying wallboard is best shown in the accompanying detail drawings. Care must be taken to have nailing pieces at the top of all baseboards, frieze panels and lower edges of cornices. This precaution holds the wallboard firmly against the various kinds of trim and eliminates pockets and gaps when the job is finished. The wallboard in this case is fastened directly on the studs with self-clinching fasteners.

The decorative panelling strip, as well as those that form the cornice, are worthy of close scrutiny. Too often, strips no wider than a lath are used with the result that the finished job has a scant and skimpy appearance. The width specified here is sure to meet with the lasting approval of those who will use the breakfast nook. Before the strips are applied the wallboard should receive a first coat of paint, preferably a flat coat.

Furniture for the breakfast nook of the design shown here can be purchased ready to set in place. Or, if the ingenuity of the carpenter permits, the table and benches may be built into the nook. Very often, this practice offers a more attractive arrangement.

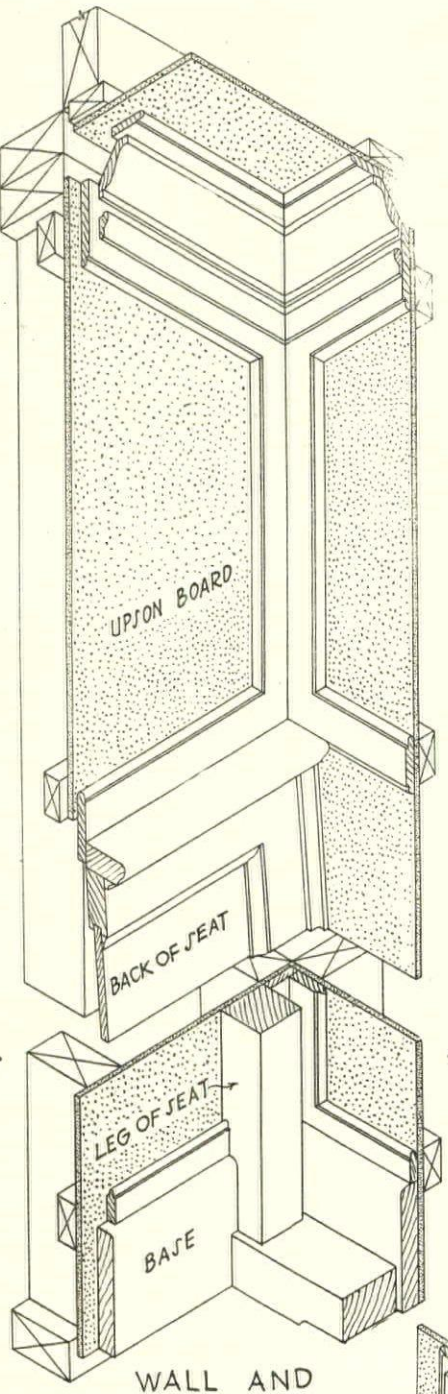
A study of the plans will serve not alone to facilitate the building of a panelled breakfast nook but further will pave the way for new ideas in the use of wallboard for interior finishing.

This design is reproduced from one of many, showing attractive uses of wallboard in the home, prepared by the Upson Company, Lockport, N. Y. This large volume, called the Upson Blue Book, contains forty complete detailed blue prints for the application of artistic wallboard panelling. Various problems connected with the use of wallboard are clarified, with suggestions opening new channels in designing with wallboard.

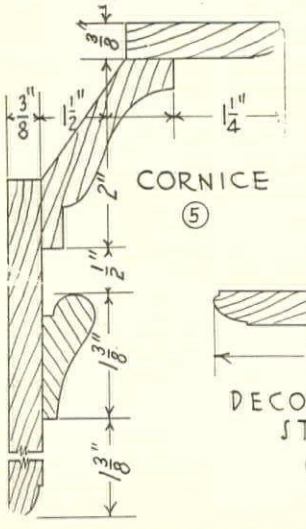
The Upson Company make a well-known fibre wallboard and are, of course, greatly concerned with the correct application of their product. This led them to produce the set of working drawings that show all the necessary details involved in producing a finished wallboard job.

The book, representing three years of research, with architects and decorators collaborating, is being distributed to local lumber dealers. Builders may obtain at a moderate cost the blue prints for carrying out these attractive wallboard treatments.

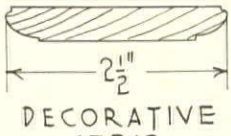
The design and details illustrated here have walls and ceiling of extra-heavy wallboard panels. Admirable tone effects can be secured thus. Panelling makes excellent interior decoration, permitting the introduction of a mellow note into the design



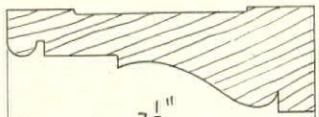
WALL AND CEILING PANELING



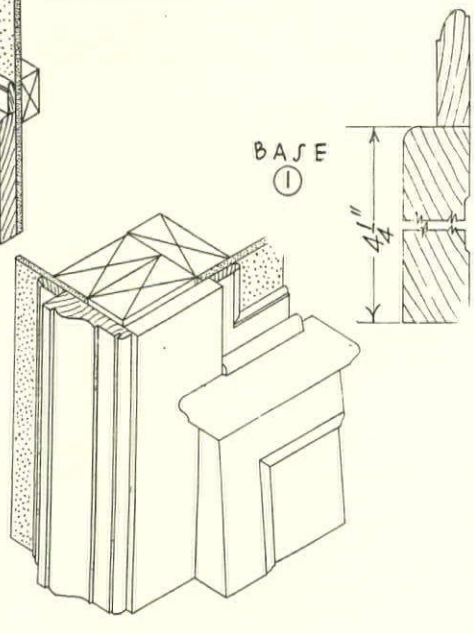
CORNICE ⑤



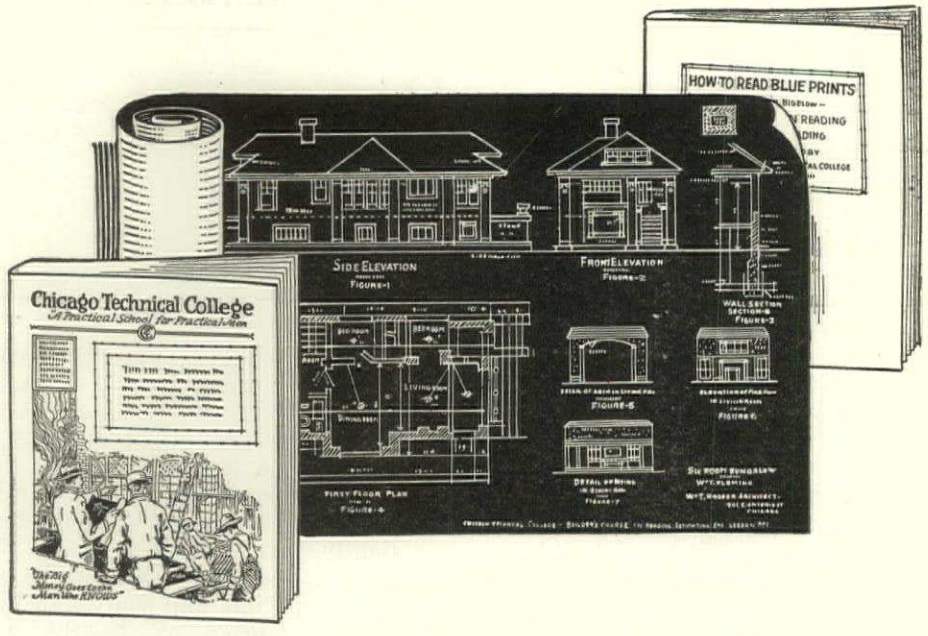
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DETAIL SHOWING TOP OF SEAT



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You may be as good a man as there is in the use of tools, but as long as you remain a workman you won't earn more than the wage scale. It isn't manual skill that puts a man in big pay class—it's the ability to use his head that brings the fat pay check or enables him to "go in for himself." That has been proved over and over again by workmen who took the Chicago Tech. training in the higher branches of building and are now foremen, superintendents and contractors.

J. B. Woodside of Oklahoma was a carpenter working for $6 a day when he took a course in training by mail at Chicago Technical College and was advanced to a foremanship in 2 months, became a superintendent 5 months later and then went into contracting.

Carl Testroat of Iowa is another man who got into a successful contracting business through his training, as did J. G. Hart of West Virginia, and C. W. Busch of Kansas.

Not only workmen have got ahead through this instruction but also contractors who were taking on small jobs because their experience was limited. Chicago Tech. has taught them how to handle the big jobs that pay the mos money.

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Never before have there been such opportunities as there are right now for men with expert knowledge of building. You can get ready for these big opportunities if you will use some of your spare time to study at home under the direction of the Chicago Tech. experts. No time taken from your present work. All this will be explained when we send you the free books and blue prints.

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Plan Reading. Every man who has got very far ahead in any building trade can read blue prints. No man can expect to be a first rate foreman or superintendent until he knows what every line on a plan means and how to lay out and direct work from the architect's plans. By the Chicago Tech. Method you quickly learn to read any plan as easily as you read these words.

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Superintendent. How to hire and direct men, how to keep track of every detail of construction as it goes on, how to get the work done in the least time at the lowest cost is also fully covered in the Chicago Tech. Builders' Course.

Also special courses in Architectural Drafting for builders, taught by practical men. These explained in Special Catalog "D" sent on request.

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State .....

Occupation .....

PUBLISHER'S ANNOUNCEMENT

The Best Selling Houses in America!

WE here put before our readers another plan which will help them to a bigger and better building business—more sales!

When we say "bigger and better" we mean precisely that. This or any other good industrial publication is a continuous endeavor to promote the business welfare of its subscribers. But occasionally there is developed a front-rank idea that deserves special emphasis. Such is the one presented here. It is new but not revolutionary. It is the logical next-step-forward. It is based on a belief that theory is fine but practice is better as an immediate money-maker. It will appeal to you as a practical man. It is designed to help you build greater reputation and profits *now*. It will do it. It is easy of accomplishment.

We are all agreed, we think, that the holding of Prize Contests for Better House Designs has been a fine thing for building in America. It has advanced the cause of better homes and has helped lift this country out of its previous condition of jig-saw and gingerbread architectural design. We and others have published excellent books of plans. They have achieved a fine purpose. But how often have these plans been actually *built* into houses which have put *real cash* into the builders' pockets. An unbuilt design is after all only a framed picture so far as commercial benefit to our readers is concerned. In brief, the scheme of "best house designs" leaves something to be desired in this one respect: There is no *guarantee* that the public will *buy* the plans. And, in the last analysis the *people* are judge and jury. It is they who select, who pay the cost and who must live in the home. After all is said and done the plans must be *commercially* successful to be of benefit to the builder.

We may find an analogy in another field of endeavor. An almost perfect parallel exists in the theatrical world where the wants of the people as a whole are so closely touched and gauged. An experienced playwright concocts a drama. A producer, grown gray and shrewd through many failures, makes a few changes and gives the play his stamp of approval. A superior cast is engaged. The opening night arrives. The critics attend in a body. The first night audience, usually friendly, seems to approve. The verdict in the morning papers is highly favorable. The company, the author and the producer smile jubilantly—for about one week. Then the tickets are found for sale at the theatrical bargain emporium and shortly thereafter the scenery is packed off to the warehouse. Another failure is recorded because the public refused to patronize.

"Abie's Irish Rose," seemingly the most successful play ever produced, was universally condemned by the professional critics. It is now in its third year on Broadway and, like the brook, seems destined to go on forever. The *people* like it.

Further down the street is another play which opened not long ago. This by perhaps the greatest living playwright, with a scintillating young star in the leading role. Today tickets for that show may be bought at cut rate agencies. The *people* won't go.

WHAT we purpose doing is to publish only "plans" which have succeeded. Only those which have been *most* successful all over the United States. This is the idea which will place in your hands, through the pages of this paper first and later in book form, "The Best Selling Houses in America."

Undoubtedly many of these houses have appeared first in some of the hundreds of books of plans that have been published. So, this book will be a digest of all of them; instead of a hundred books of thousands of designs, one book with the *best selling* designs; the *commercially successful* ones; the ones which have actually brought *cash to builders* the country over.

Do you see the real *practicability* of this plan? When it has been put into effect you may show your prospective customers' photographs and floor plan of house which exist in *fact* instead of only in *imagination*.

READ THE DETAILS ON THESE PAGES

EVERY READER SHOULD PARTICIPATE

SINCE it is true that average people have selected and bought these houses it will be true that the selected designs will represent an accurate cross-section of the people's desires. No matter where you are located or whether your customers are wealthy or only in moderate circumstances there will be designs to suit them because there will be no limit in either way on size or price; no limit on the number of rooms; on the two or more story or bungalow type; none on the style of construction whether frame, hollow tile, brick, stucco, stone, concrete or a combination of any of these materials. "The Best Selling Houses in America!" That's the test. There is but one limitation—the designs must be architecturally in good taste. This paper will never sponsor anything else.

Now the facts in which the test will be based exist but have never been gathered together. Right in *your* office *now* you have some of them. It is to *you* that we come for co-operation in making successful this movement which will be of great benefit to you personally and the whole building industry.

We ask you to send us:

1—A photograph of the house or houses which have proved to be "best sellers" with you together with the floor plans.

2—A statement telling how many of each were sold, where they were located and the selling price of each.

That is all there is to do. There isn't any more. It's easy. All you have to do is go to your files, make your selection and send the photos, plans and facts to us.

This is not a prize contest. We believe that you have the pride in your accomplishments and in your industry to perform this easy service which we shall turn, through co-operation, into a big service for you, the individual, and for the industry that provides us all with the wherewithal. We believe that you realize the value of interchange of ideas. That is what this Movement is. We're certain that you know there's a heap of truth in that old adage, "Make use of the other man's experience—it cost him a lot of mony." This proposal is to give you the experience of perhaps a hundred other men in exchange for yours. Nothing could be simpler, nothing more practical and useful.

While this is not a prize contest we propose to add some interest, some excitement, and return courtesy for courtesy in this way:

1—The selected designs will first appear in BUILDING AGE AND NATIONAL BUILDER and full credit will be given to the architect and builder.

2—To the twenty-five selected as "first," we shall present (a) an engrossed certificate of merit; this may be framed and hung in your office; (b) a *life* subscription to BUILDING AGE AND NATIONAL BUILDER; (c) a copy of the book of designs.

3—To the twenty-five selected as "second" there will be presented (a) a year's subscription to BUILDING AGE AND NATIONAL BUILDER and (b) a copy of the book of designs.

4—To all others whose entries may be published we shall send this book.

5—No entrance fee is required.

6—The Editorial Board of this publication will pass on the facts submitted and make the selections.

7—Any information marked "Confidential" will not be published.

All contributions must reach this office by May 1, 1925.

YOU know that when two or more building men get together they talk shop. We all do. We tell what we are doing and what we hope to do. We take a lot of justifiable pride in speaking of our business accomplishments. It's good for everybody. This movement is simply one of those get-togethers, done on a big scale. Instead of a few you'll be talking to 75,000 subscribers—and the Lord knows how many other readers—of this publication. There's an audience for you!

Please don't neglect to send in your "best sellers" on the ground that you "haven't got a chance." You have. Nobody knows now anything about this subject. That's precisely what we intend to find out. You may be numbered among the elect.

"THE BEST SELLING HOUSES IN AMERICA" will be a brilliant contribution to the libraries of those connected with the building industry—if you will enter *your* contribution.

We rely with great confidence, upon your participation. Please send the data now.

Address, "Editor, Best Selling Houses, BUILDING AGE AND NATIONAL BUILDER, 239 West 39th Street, New York.

SOMETHING THAT EVERY BUILDER WANTS

News, Notes, and Comment

Seasonal Employment in Cedar Rapids

A STUDY of seasonal employment has been made in Cedar Rapids, Iowa, at the suggestion of Fred A. Canfield, Commissioner of Conciliation of the United States Department of Labor, and at the request of the Cedar Rapids Building Trades Council. The study was made under the direction of Professor W. F. Bristol, Extension Department, University of Iowa.

Following his study of the situation in Cedar Rapids, Professor Bristol made this comment: "It is common knowledge that work in the building trades is seasonal with a resulting loss of several months' income during each year. Weather conditions are often unfavorable even during the building season, time is lost in moving from one job to another, and building operations are usually at a standstill during the winter months.

"The average amount of work in the building trades during the normal year seems to be in the neighborhood of eight months, certain trades doing some work nearly every month of the year, others falling as low as only five months of actual work."

Professor Bristol prepared a table showing the average time lost for all building trades in Cedar Rapids for the three-year period, 1920-1922. The table follows:

Occupation	Number of Men	Months at Trade	Months at Other Work	Months of Time Lost
Carpenters	424	8.0	0.0	4.0
Masons	77	7.8	0.0	4.2
Electricians	37	10.0	0.0	2.0
Painters	113	7.2	2.3	2.5
Paper Hangers	40	7.2	2.3	2.5
Plasterers	22	8.0	1.0	3.0
Plumbers	42	10.5	0.0	1.5
Sheet Metal	58	11.0	0.0	1.0
Laborers	327	8.0	2.0	2.0
Cement Finishers	16	6.0	2.7	3.3

The Department of Commerce, from knowledge gained from the nationwide survey, contends that not only in Cedar Rapids but in every other part of the country as well, the unemployment question relating to the building trades can be greatly relieved.

It says that with modern machinery and methods of heating materials, many forms of building can now be carried on even in freezing and rainy weather. Even the placing of steel, concrete and masonry work can go ahead in inclement weather, according to the report, if shelters are provided and materials properly prepared.

For the purpose of encouraging building during what has been known as the off season, the Division of Building and Housing of the Department of Commerce is prepared to supply communities with data for determining what average weather conditions may be expected over a given period, for the use of builders.

The Division will also supply a chart for scheduling the beginning and completion of new buildings and repair work.

When filled in to show the seasonal unemployment in the building trades for a city or locality, the chart may be blue printed and circulated among builders and architects for use in planning operations.

Standardizing Materials

THE manufacture of cement bricks and hollow building tile and blocks in standard and uniform sizes has been recommended by the Division of Simplified Practise of the Department of Commerce. A conference of manufacturers was recently held at which the sizes considered were as follows: concrete block, 7⅝x15⅝ inches, in widths of 6, 8, 10 or 12 inches concrete building tile, 5x12 inches; in widths of 12 inches; concrete brick, 2¼x8 inches in widths of 3¾ and 3⅞ inches.

Eleven sizes of steel bars for reinforcing have been adopted by manufacturers and distributors, effective Jan. 1 for producers and March 1 for distributors. The standard areas in inches, as adopted, are .049, .110, .250, .307, .442, .602, .785, 1.000, 1.266 and 1.563.

Plan Largest Building in Chicago

PLANS are on foot to erect in Chicago the largest building in the world. The structure would be known as the American Agricultural Society Building. It would be a world's temple to agriculture, and would include a broadcasting tower rivalling that of the famous Eiffel in Paris, a convention hall of 20,000 seats and a commercial hotel of 3,500 rooms. The building which will cost $30,000,000, is planned by a Midwest group of financiers headed by former Governor Frank O. Lowden.

The building, according to plans announced, would be the national center of farm activities in the country. It would front on Michigan Boulevard at the juncture with the Chicago River, with docks for passenger and freight boats and warehouse facilities, and would include a suburban train station.

Building Boom for Buenos Aires

AN American development company is soon to launch an extensive building program in Buenos Aires, according to the United States Department of Commerce. The total expenditure involved in the operation is expected to amount to $50,000,000. The project is to be financed in New York City and materials manufactured in the United States are largely to be used in the construction.

Model Town Exhibition

"TINY TOWN," the miniature model city which was exhibted in Springfield, Mo., in 1919, will be repeated on a larger scale this year, the exhibition to be held from May 25 to June 6. Combined with it will be an exposition of building materials and home equipment.

The project consists of the erection of small models of all types of buildings that make up the modern city, and their arrangement in the best style of city planning. The model city will include parks, boulevards, business and industrial districts, residence districts and public buildings. It will have municipal lighting and sanitation system, all planned and laid out by students. Many prizes will be offered for the best displays in various sections of the exhibit. William H. Johnson is director in charge.

Building Trade Courses at Carnegie Tech

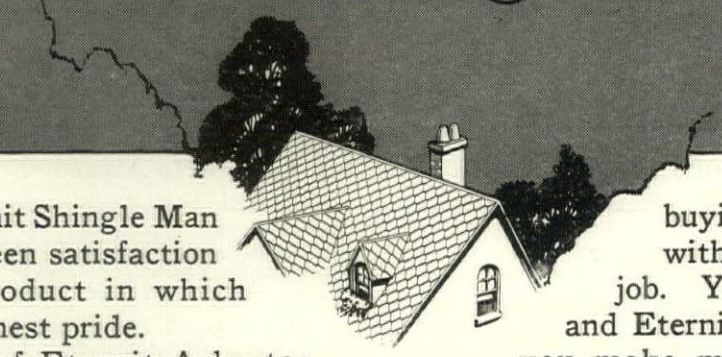
COURSES in bricklaying, masonry and reinforced concrete construction have been established in the Carnegie Institute of Technology, Pittsburgh, for persons already engaged in these trades who wish to have a scientific knowledge of the best methods. Special courses have been arranged in plan reading and estimating, laying out and cutting of arches, methods of bonding, leveling and measuring brick work, and contract specification and management. There is also a course in the installation, construction and maintenance of electric equipment.

Change Exposition Date

OWING to the large number of applications for booths and an appeal from exhibitors for more time to prepare for the exposition of the American Institute of the City of New York, the Exposition Committee has decided to advance the date to Monday, April 27, to Saturday, May 2, inclusive. The exposition, which will be held in the Engineering Building, West 39th Street, will open Monday evening, April 27, at 8 o'clock, and will be open on the following days from 11 a. m to 11 p. m.

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BEING the Eternit Shingle Man gives you the keen satisfaction of selling a product in which you can take honest pride.

The quality of Eternit Asbestos Shingles backs up every claim you make for them. They are built of layer upon layer of tough, interwoven asbestos fibres, reinforced with the finest cement—welded into place under enormous pressure—seasoned for three whole months. So they are even-laying, storm-tight, fire-proof and wear-free—a finer shingle to uphold your reputation as a judge of good roofing.

Profits are sure—for one Eternit roof sells another. Many of our best customers, now buying car after car, started with a few squares for a single job. You get more business—and Eternit Shingles are priced so you make more money. They are easier and faster to lay. And their uniform quality and dependable strength give your customers better roofing jobs.

Many of our carpenter, builder and roofer friends are establishing increasingly profitable businesses by specializing on Eternit Shingles. We'll be glad to tell you of their success—show you how you can do the same thing—and then help you do it. Your territory holds just as big opportunities. Write today for details.

AMERICAN INSULATION CO.
Roberts Avenue and Stokley Street, Philadelphia, Pa.

Eternit
ASBESTOS SHINGLES
Make your first roof last

Review of Building Situation

THE month of December completed a record-breaking building year as indicated by the F. W. Dodge Corporation's review of building activity. The total construction volume of the country exceeded five billion dollars—an increase of 12 per cent over 1923. The valuation of new work during the second half of last year was only slightly less than that started during the first six months, showing that the increase in construction volume over 1923 was maintained at a consistent level.

Over 67 per cent. of the work contemplated for 1924 was actually started. The normal excess of construction planned over contracts awarded is about 50 per cent. Last year it dropped to 48, indicating a high degree of confidence in building conditions.

The first demands that 1925 will make upon building facilities, according to the present outlook, will be felt in the industrial and public utility fields and in small residential work. Following these commercial and educational needs must be taken care of if the quantity of work now in progress and planned for this year approaches the estimated totals.

In New York State and Northern New Jersey, the year's total for this district exceeded all previous records. Fifty-six per cent of the total $1,329,396,100 was expended in residential buildings.

The report for New England shows another record-breaking year. December contracts exceeded the previous month by 7 per cent. and December, 1923, by 3 per cent. The year's total of work started was $352,195,100, the highest on record for this district.

Total construction started in the Middle Atlantic States last year was 23 per cent. over 1923. The $477,746,300 in contracts awarded was divided as follows: Forty-six per cent. for residential, 20 per cent for public works, 11 per cent. for commercial and 16 per cent. for educational and industrial. The contemplated work for 1924 ran so greatly in excess of the construction actually started that it indicates a considerable construction demand still to be met.

In the Central West, 44 per cent. of the building total went for residential work. The sum for all work, $1,049,585,900, was just a million dollars over the 1923 figures. The demand for this year's operations is pronounced strong, due to the enormous excess of contemplated work for last year over the work actually started.

In both the Pittsburgh district and the Northwest, 38 per cent of the total was expended for residential work.

The December report from the Southeastern States recorded a total of $44,895,400, a sum 17 per cent. over the previous month and 41 per cent. over December, 1923. A large potential demand is indicated for 1925.

Record of December, 1924, Building Contracts Awarded

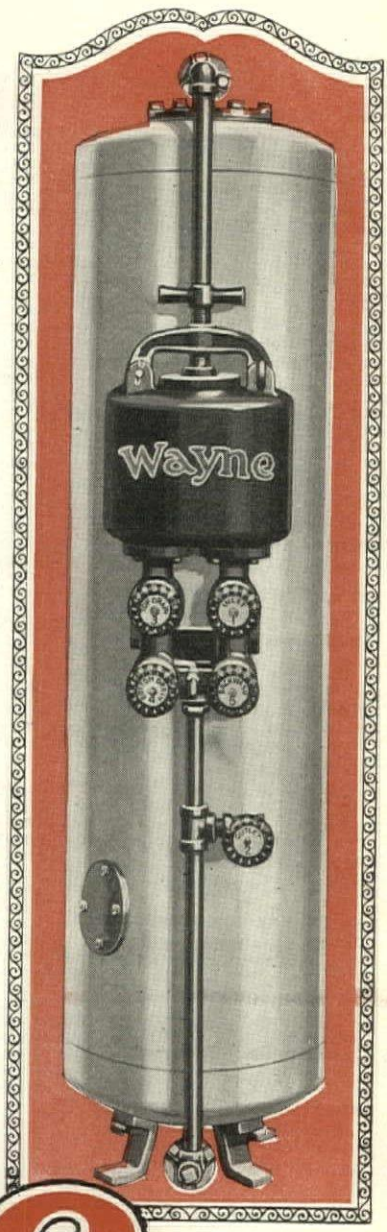
Classification of Buildings	SECTION OF COUNTRY New England District	New York District	Mid-Atlantic District	Pittsburgh District	Middle West District	North West District	South Atlantic District	Totals
Commercial Buildings	$4,013,500	$13,224,600	$3,287,700	$6,091,800	$6,614,500	$541,000	$4,922,800	$38,695,900
Educational Buildings	2,007,000	10,295,400	1,066,100	1,208,000	7,113,100	5,000	4,102,000	25,796,600
Hospitals and Institutions	290,000	6,597,000	985,100	1,737,000	890,000	35,000	3,900	10,538,000
Industrial Buildings	1,444,500	3,728,900	1,033,400	12,057,900	6,156,700	509,000	5,845,400	30,775,800
Military and Naval Buildings	25,000	.....	7,500	.....	.....	.....	.....	32,500
Public Buildings	969,700	710,100	187,000	64,000	260,400	16,000	394,600	2,601,800
Public Works and Public tilities	1,243,500	4,677,500	1,331,400	5,413,600	10,389,100	362,300	12,202,200	35,619,600
Religious & Memorial Buildings	430,000	1,331,500	887,500	670,200	1,033,500	40,500	1,531,000	5,924,200
Residential Buildings	16,253,900	57,297,800	15,705,100	19,532,600	41,385,000	2,044,900	14,619,900	166,839,200
Social & Recreational Buildings	692,000	3,178,000	523,700	3,600,000	1.693.000	202,000	1,273,600	11,162,300
Total	$27,369,100	$101,040,800	$25,014,500	$50,375,100	$75,535,300	$3,755,700	$44,895,400	$327,985,900

Building Projects Contemplated, December, 1924

Classification of Buildings	SECTION OF COUNTRY New England District	New York District	Mid-Atlantic District	Pittsburgh District	Middle West District	North West District	South Atlantic District	Totals
Commercial Buildings	$5,402,500	$33,122,100	$8,553,700	$4,584,500	$47,704,500	$1,460,000	$9,590,400	$110,417,700
Educational Buildings	4,058,500	2,941,000	10,698,800	2,546,700	10,738,500	8,123,500	4,910,000	44,017,000
Hospitals and Institutions	1,705,000	271,000	1,867,500	1,295,000	4,921,500	455,000	1,425,900	11,940,900
Industrial Buildings	1,139,500	5,188,200	2,284,900	4,724,400	8,778,700	703,500	7,823,400	30,642,600
Military and Naval Buildings	.....	120,000	.....	.....	7,500	.....	30,000	157,500
Public Buildings	893,500	797,000	626,000	600,500	825,700	65,000	3,281,400	7,089,100
Public Works and Public tilities	20,721,500	119,453,400	24,456,400	11,433,800	37,658,700	12,632,200	19,777,400	246,133,400
Religious & Memorial Buildings	1,910,500	1,402,000	1,606,700	1,745,700	3,914,500	410,500	1,903,000	12,892,900
Residential Buildings	22,501,100	59,261,700	41,647,600	22,275,900	70,273,400	2,981,600	23,332,500	242,273,800
Social & Recreational Buildings	6,323,000	5,781,500	4,138,000	4,713,000	10,993,600	844.500	3,905,600	36,699,200
Total	$64,655,100	$228,337,900	$95,879,600	$53,919,500	$195,816,600	$27,675,800	$75,979,600	$742,264,100



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A Profitable Way for You to Eliminate the Dirty Cistern From the Homes You Build

A Wayne rapid-rate Water Softener is far superior to a cistern —and far more desirable from the viewpoint of the buyer.

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A growing public demand for Wayne Water Softeners is being created by the Wayne national advertising in The Saturday Evening Post, Collier's and Good Housekeeping—reaching millions of families every month.

The Wayne Softener costs no more, and often less than a cistern.

Wayne-soft Water is cleaner and fresher than cistern water. It is ideal for bathing, for laundry use, and is also suitable for cooking and for drinking.

Thus you can see that the Wayne Softener is an attractive, desirable household device—one that thousands of families are installing in old homes, and which is going into more and more new homes every day.

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Write for complete details, and descriptive booklets. Make the profit that Wayne pays.

Wayne Tank and Pump Company
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Branch Offices: Atlanta, Boston, Buffalo, Chicago, Cleveland, Columbus, Dallas, Detroit, Kansas City, Los Angeles, Minneapolis, New York, Philadelphia, Pittsburgh, San Francisco and St. Louis. *Warehouses:* San Francisco, Philadelphia, London, Eng. and Paris, France. *Foreign Offices:* Wayne Tank & Pump Co., Ltd., Ingersoll House, 9 Kingsway, London W. C. 2, Eng. Wayne Tank & Pump Co., S. A., Rue Miromesnil 79, Paris, France. Wayne Tank & Pump Company, of Canada, Limited, 165-187 Dufferin Street, Toronto, Ontario, Canada.

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REG. U.S. TRADE MARK

Wayne

ORIGINAL RAPID-RATE
(Borrowman Patent)
Water Softeners

Trend of Material Prices

THE following are wholesale prices of basic building materials in the three markets which set prices for the rest of the country.

These prices are presented to show the trend of the wholesale market, which forecasts prices in the retail market. They are not prices which the average contractor can buy at, but are quoted to show him the movement of materials so that he can buy to better advantage.

Followed in conjunction with the Review of Building Conditions, these prices will prove invaluable.

All prices are for carload lots, F. O. B. market quoted, unless otherwise noted.

NEW YORK PRICES

	Dec. 26	Jan. 25
LONG LEAF YELLOW PINE—		
B. & Better Edge Grain Flooring, 25/32x2⅝" Face	$89.00	$90.50
Dimensions, S1S1E, No. 1 Common, 2x4", 10'....	43.75	43.75
Timbers, Merchantable, 05, 12x12", 10 to 20'.....	50.00	54.00
B. and Better Ceiling, ⅛x3¼.....	42.00	42.00
B. and Better Partitions, ⅝x3¼".....	56.00	56.00
B. and Better Finish, 1x4".....	65.25	68.25
No. 1 Common Boards, 1x8".....	49.75	49.75
NORTH CAROLINA PINE—		
No. 2 and Better Flooring, 13/16x2½".....	$62.00	$62.00
Roofers, 13/16x5½".....	32.50	32.50
DOUGLAS FIR—		
No. 2 Clear and Better V. G. Flooring, 1x3".....	$66.50	$66.50
No. 1 Clear V. G. Flooring, 1x4".....	69.00	69.00
No. 2 Clear and Better Ceiling, ⅝x4".....	38.50	38.50
No. 2 Clear and Better Novelty Siding, 1x6".....	51.00	52.00
No. 2 Clear and Better V. G. Stepping.....	90.25	91.25
WESTERN RED CEDAR—		
B. C. Perfection Shingle, per M.....	$6.98	$7.08
Washington Perfection Shingles, per M.....	6.68	6.63
Clear Bevel Siding, ½x6 ft.....	40.25	42.75
CANADIAN SPRUCE—		
No. 1 Lath, 1½".....	$7.75	$7.88
Dimensions, 2x4", 10 to 16'.....	36.00	36.50
HARDWOOD FLOORING—		
Clear Quartered White Oak, 13/16x2¼".....	$150.00	$152.50
Clear Plain White Oak, 13/16x2¼".....	103.00	105.50
Clear Plain Red Oak, 13/16x2¼".....	97.00	99.50
Clear Maple, 13/16x2¼".....	100.00	101.00
(All lumber prices furnished by The Lumber Manufacturer & Dealer)		
COMMON BRICK—		
Per M f. o. b. job.....	$18.00	$18.50
PORTLAND CEMENT—		
Bbbls. in car lots to contractors, delivered.....	$2.50	$2.60
STRUCTURAL STEEL—		
Per 100 lb. at warehouse.....	$3.24	$3.24
CRUSHED STONE (cu. yd.)—		
¾ in.	$3.10	$3.35
1½ in.	3.00	3.35
WALL BOARD—		
Per 1,000 sq. ft. in lots under 1,000 sq. ft.....	$50.00	$50.00
Per 1,000 sq. ft. in lots 1,000 to 2,500 sq. ft.....	45.00	45.00
METAL LATH—		
2.3 lb.—26 gauge, price per 100 sq. yd., delivered..	$0.21	$0.21
2.8 lb.—24 gauge, light, price per 100 sq. yd., deliv.	0.25	0.25
3.4 lb.—24 gauge, heavy, price per 100 sq. yd., del.	0.29	0.29
(Add 5 cents per sq. yd. for galvanized.)		
LIME (Hydrate)—		
Finishing, per 50 lb. bag.....	$0.60	$0.60
Masons, per 50 lb. bag.....	0.45	0.45
SAND AND GRAVEL—		
Sand (per cubic yard).....	$2.00	$2.25
¾ in. Gravel (per cubic yard).....	2.75	3.15
1½ in. Gravel (per cubic yard).....	2.75	3.15
FACE BRICK—		
Tapestry (delivered)	$47.00	$47.00
Harveale (delivered)	43.00	43.00
Caledonian (delivered)	45.00	45.00
Smooth Grey (delivered)	46.00	46.00
Fisk Lock, f. o. b. factory.....	39.50	39.50
SHINGLES—		
Asphalt, Single (per square).....	$6.50	$6.50
Asphalt, strip (per square).....	7.00	7.00
STAINED WOOD SHINGLES—		
16 in. Extra Clear (per square, delivered).....	$10.75	$10.75
18 in. Eureka (per square, delivered).....	11.00	11.00
18 in. Perfection (per square, delivered).....	12.00	12.00
24 in. Royal (per square, delivered).....	12.00	12.00
VITRIFIED SEWER PIPE—		
4 in. (cents per foot).....	$0.12	$0.12
6 in. (cents per foot).....	0.18	0.18
SLATE ROOFING—		
Bangor or Slatington, 8x16 in. per sq. at quarry.	$8.40	$8.40
CORNER BEADS (Galvanized)—		
Per foot	$0.04	$0.04
WALL TIES (Galvanized)—		
Per thousand	$3.75	$3.75
FLUE LINING—		
8½ x 8½ in., per foot.....	$0.34	$0.34
8½ x 13 in., per foot.....	0.45	0.45
HOLLOW TILE—		
8 x 12 x 12 in., heavy. Each, delivered.....	$0.25	$0.25
HAIR—		
Per bushel	$0.60	$0.60
PLASTER BOARD—		
32 x 36 x ⅝ in. Each.....	$0.23	$0.22
MAGNESITE STUCCO—		
Per ton	$43.00	$43.00
TILE—		
1 in. Square or Hexagon, White, per sq. ft.....	$0.27	$0.27
3 x 6 in., White Wall.....	0.60	0.60
8 x 8 in., Red Floor.....	0.45	0.45

CHICAGO PRICES

YELLOW PINE—		
Boards, 1 x 8, No. 1 Com.....	$45.00	$45.00
Ceiling, ⅝ x 4 B. and Btr.....	42.00	42.00
Dimension No. 1, 2 x 4, 12 to 14 ft.....	33.00	33.00
Drop Siding, 1 x 6, B. and Btr.....	52.50	52.50
Finish, 1 x 4, B. and Btr.....	60.00	60.00
Flooring, B. and Btr. E. G., 1 & 3.....	85.00	85.00
Lath, 4 ft., No. 1.....	6.00	6.00
Timbers, Long Leaf No. 1, 10-20 ft., S4S, 6x12 to 12 x 12	51.00	54.00
HARDWOODS—		
Maple Flooring, 13/16 x 2¼, clear.....	$99.00	$99.00
Oak Flooring, ⅝ x 2, Cl. P., White.....	68.00	70.00
Oak Flooring, 13/16 x 2¼, Cl. Pl., White.....	100.00	102.00
REDWOOD—		
Bevel Siding, S1S1E, 10 ft., 20 ft., ½x4, clear....	$34.25	$36.25
Finish, S2S or S4S, 1 x 6 to 8 in., clear.....	84.25	84.50
WESTERN RED CEDAR—		
Bevel Siding, ½ x 4, clear.....	$35.00	$35.00
Shingles, extra clears, 16 in.....	4.32	4.32
COMMON BRICK—		
Per M. f. o. b. job.....	$12.00	$12.00
PORTLAND CEMENT—		
Bbls. in car lots to contractors, not including containers	$2.20	$2.10
STRUCTURAL STEEL—		
Per 100 lbs. at warehouse.....	$3.00	$3.00

ST. LOUIS PRICES

YELLOW PINE—		
Boards, No. 1 Com. 1 x 4.....	$40.75	$40.75
Partition, ¾ x 3¼, B. and Btr.....	54.50	55.50
Dimensions, No. 1, S1S1E, Short Leaf, 2 x 4 in., 12 & 14 ft.....	32.50	33.50
Finish, S2S, B. and Btr., 1 x 4, 6 & 8 ft.....	59.50	59.50
Flooring, B. and Btr., E. G., 1 x 3.....	83.00	83.00
Flooring, B. and Btr., F. G., 1 x 3.....	60.00	60.00
Lath, 4 ft., No. 1.....	5.10	5.25
Timbers, No. 1, rough, short leaf, 6 x 12 to 12 x 12 in., 10 to 20 ft.....	40.50	44.75
CALIFORNIA REDWOOD—		
Finish, S2S, Cl., 1 x 6 in.....	$84.50	$84.50
Siding, 4 in. Bevel, 8 to 20 ft....	34.25	36.25
8 in. Colonial	66.75	66.75
8 in. Bungalow	50.25	50.25
HARDWOODS—		
Oak Flooring, ⅝x1½ & 2in. clear, Qtr. White....	$107.00	$107.00
Maple Flooring, 13/16 x 2¼ in., clear.....	101.00	102.50
RED CEDAR—		
Siding, ½ x 6, clear.....	$41.00	$42.50
Shingles, clears, per M.....	4.31	4.36
COMMON BRICK—		
Per M, f. o. b. job.....	$19.00	$19.00
PORTLAND CEMENT—		
Bbls. in car lots to contractors, not including container	$2.30	$2.20
STRUCTURAL STEEL—		
Per 100 lbs. at warehouse.....	$3.15	$3.15

The National BUILT-IN CONVENIENCES

Here Is Something You Can Afford



Fits in the Wall of a New House Between Standard Studding 14″ Wide, 4″ Deep, 6′ 9″ High

A guaranteed product that should be installed in every new house or apartment.

Jobbers

In Millwork, Sash and Doors, Lumber, Builders' Hardware or Other Supplies.

Travelling Men

Selling in the Above Fields

We have a proposition that sells itself. A profit maker for wide awake merchandisers.

Write for Information

National Mill & Lumber Co.

2 Rector St.
New York

318 Market St.
San Francisco, Cal.

A LINE of PRACTICAL BUILT-IN-TYPE CABINETS

Building Trade Prosperity

(*Continued from page* 108)

If in periods of great business activity the work of construction might be somewhat relaxed; and if in periods of business depression and slack employment these works might be expanded to provide occupation for workers otherwise idle, the result would be a stabilization and equalization which would moderate the alternations of employment and unemployment. * * *

"The economies possible under such a plan are apparent. When everybody wants to do the same thing at the same time, it becomes unduly expensive. Every element of costs, in every direction, tends to expand. These conditions reverse themselves in times of slack employment and subnormal activity, with the result that important economies are possible. * * *

"It is found by those governmental agencies which maintain touch with these matters, that notable progress has been made in efforts to lessen the seasonal element in employment in the construction industries. They report that employment is better spread through the year than ever before, and that in the last two or three years the proportion of winter-time employment has been considerably increased. This is entirely to the good, although much remains to be desired in this regard.

"Organizations such as your own represent possibilities of much good usefulness in dealing with these problems. * * *"

The afternoon session heard an address by the Hon. Herbert Hoover, Secretary of Commerce, who said, in part:

"In the Department of Commerce we have endeavored to develop a national program for the elimination of waste. * * * We have now had four years of what we may call experimental work in that direction. A great deal has been accomplished in the industries with which you are associated. * * * It is only through the development of associational action that we can attack this one great deficiency in our economic system."

"I know of nothing," the Secretary said in the course of his address, "that will tend more to create stability in the contracting world, will give better protection to both the contractor and to the public, than a more uniform contract based on a more careful and scientific understanding of both the material and the economic and the legal problems that are involved.

"There are great economies for the consumer; there is more stability for the contractor; and in one, perhaps a side issue to such an effective basis of relations, there are great economies for the nation, and that is in the reduction of the amount of misunderstanding and conflict and fraud and litigation that grows out of badly expressed and badly entered upon contracts."

He commended the introduction into contracts of arbitration clauses.

With Every House A Garage

Brick, Concrete or Wood

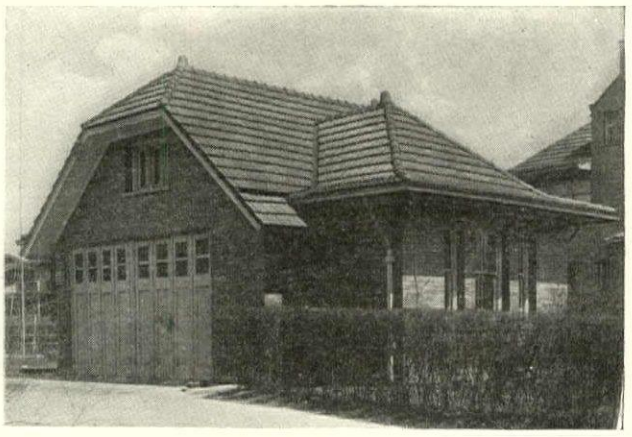


Tidy and pleasant is this garage of wood

THE garage is nowadays an indispensable appendage of the house, and naturally the two must harmonize in design and materials. Here are three examples of clever adaptation, ranging from the modest frame garage to one of stately brick and tile, and including a unique and spirited design in concrete. They are small, fitting companions of their parent buildings.

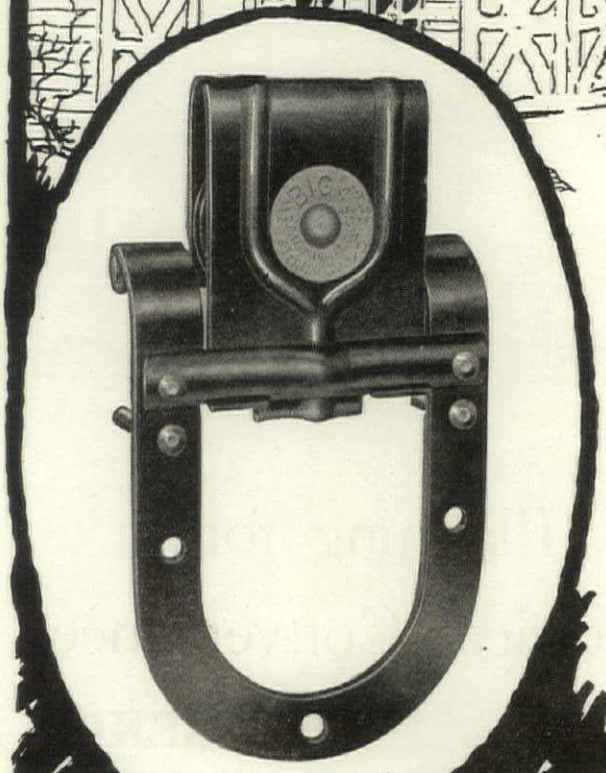


Concrete gives novel effects in garage design



Brick and tile lend sturdy, dignified character

NATIONAL "Big 4" BARN DOOR HANGERS



A Barn Door is judged by the Hanger. Every heavy door you hang that slides along the rail as if it were greased—is an advertisement for you.

The "Big 4" rolls on steel bearings, making it easy for a small boy to operate the heaviest barn door. It is a flexible hanger that will please the owner in every way. Thousands of "Big 4" Hangers have been sold and are giving entire satisfaction.

It is built on extremely heavy lines and in the simplest form of construction. No complicated parts to get out of order. Full description of "Big 4" and Braced Rail in the National Catalog—Free.

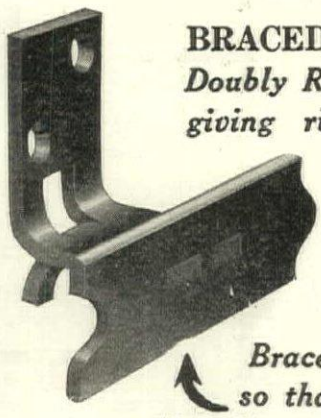
BRACED RAIL helps make the running easy.

Brackets are same width and thickness as the Rail itself. Holes are staggered so screws will not go into the same grain of wood.

Brackets are only 12 inches apart and double-riveted, giving rigidity.

Millions of feet are in use.

BRACED RAIL
Doubly Riveted giving rigidity



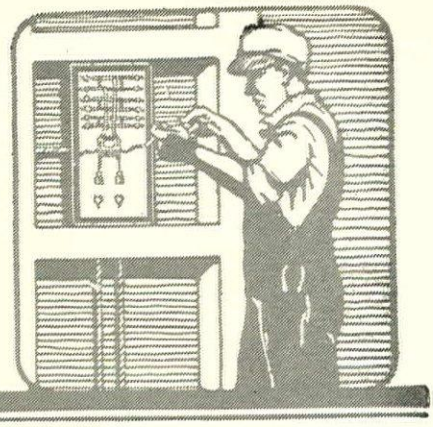
Braced below so that screws will hold more than three times as much

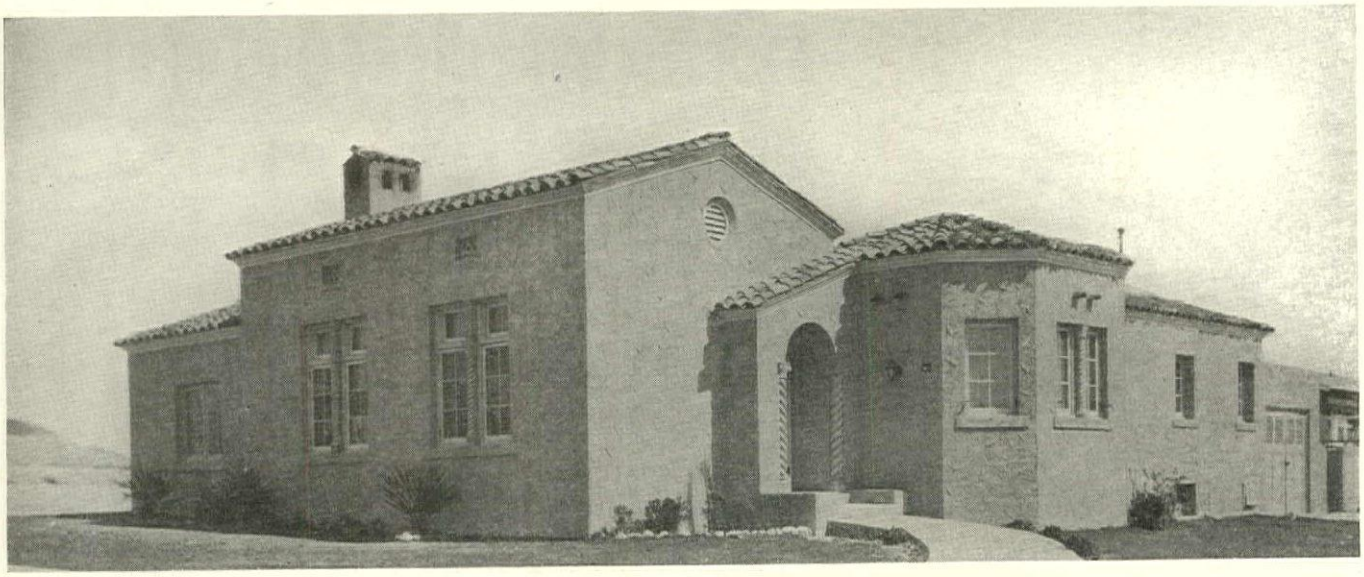
NATIONAL MANUFACTURING COMPANY

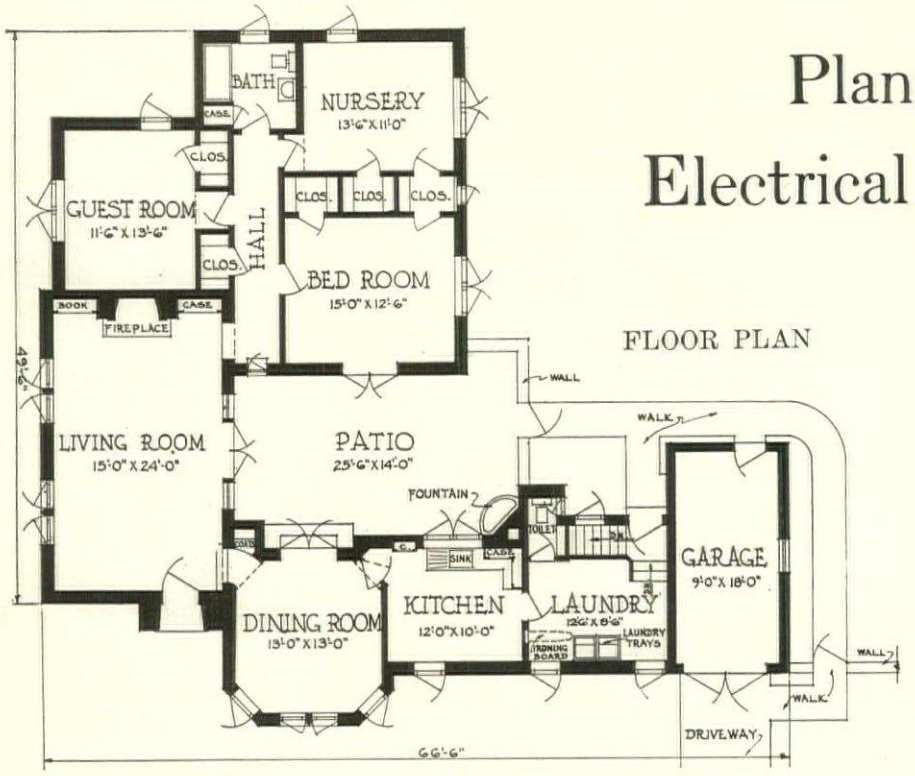
Sterling *Illinois*

ELECTRICAL WORK

Wiring-Fixtures-Devices for Lighting and Power





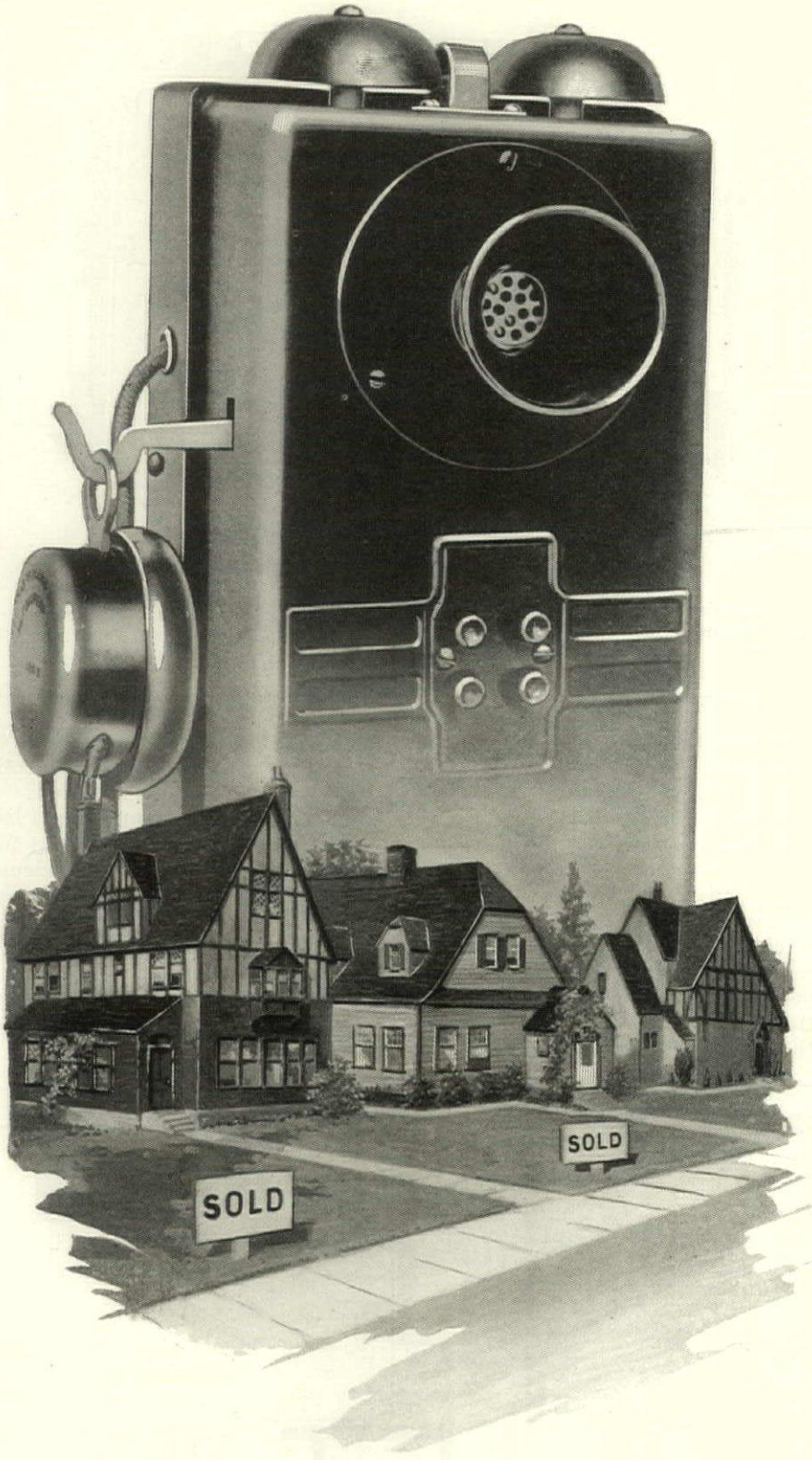


FLOOR PLAN

Planning for Electrical Convenience

LEGEND

- CEILING LIGHT
- BRACKET LIGHT
- CEILING FAN
- CONVENIENCE OUTLET
- FLOOR OUTLET
- POWER OUTLET
- S SWITCH
- CONVENIENCE OUTLET UNDER LIGHT
- 3 SWITCH UNDER LIGHT
- ANNUNCIATOR
- PUSH BUTTON
- TELEPHONE
- TELEPHONE EXTENSION
- S_D DOOR SWITCH



Sold—and Inter-Phones helped put them over!

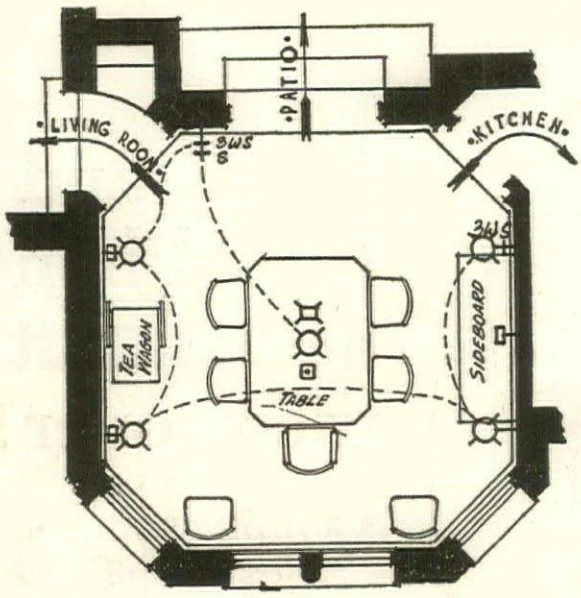
WIDE-AWAKE builders know the value of refinements in home construction. Competition has taught them that.

Western Electric Inter-Phones are a practical refinement. They provide a saving of time and effort that your prospect will be quick to appreciate. They are made for houses of every size, and made to Western Electric standards of design and workmanship.

For data on Inter-Phone systems and installation, and for everything electrical that builders use, consult our nearest house.

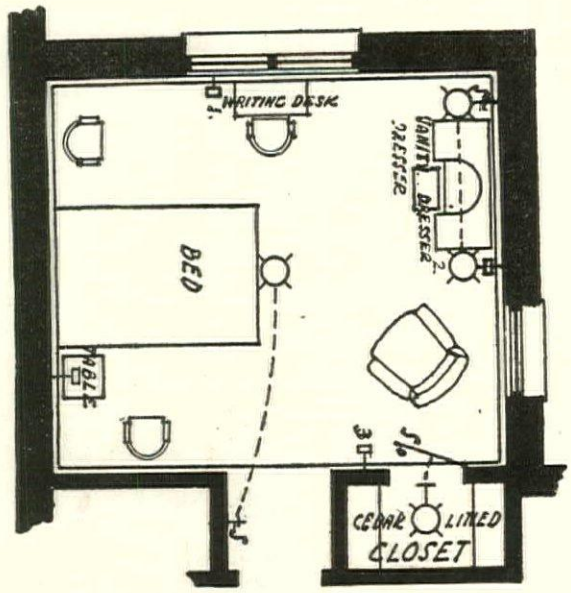
Western Electric

OFFICES IN FORTY-NINE PRINCIPAL CITIES



Electric Grill
Electric Chafing Dish — **Electric Percolator**
Electric Waffle Iron — **Electric Toaster**

DINING ROOM



Electric Boudoir Iron Set
Electric Curling Iron — **Electric Vibrator**
Electric Hair Dryer — **Electric Heater**
Electric Warming Pad — **Electric Fan**

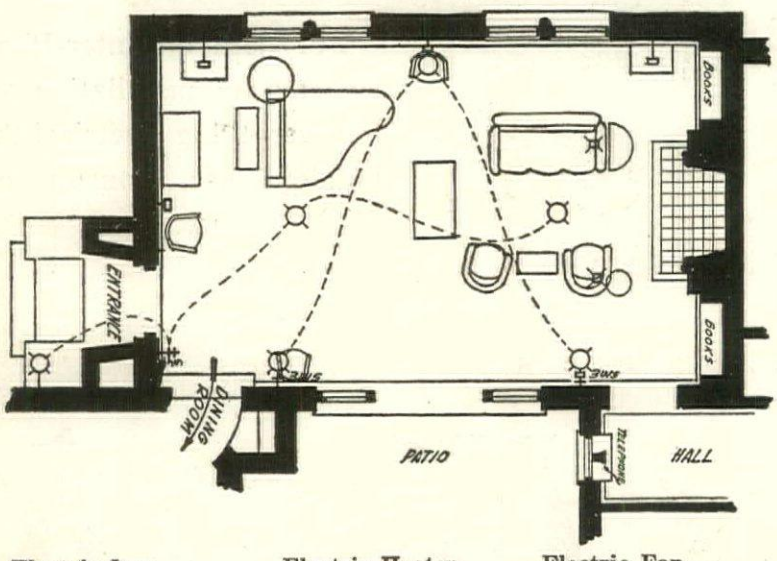
GUEST ROOM

THESE illustrations show the Electrical Home Beautiful that was recently erected and equipped by the El Paso Electric Cooperative Association, an organization composed of nineteen firms of El Paso, Texas. In addition to the association, more than forty other individual firms, representing almost as many different lines, entered into the building, from the financing to the furnishing.

The house was, of course, used for demonstration purposes in connection with electrical appliances and equipment. Incidentally, it served as a model of good construction and finishing. The general contractor was the Orndorff Construction Company and the architects were Lehmann & Wuehrmann of El Paso.

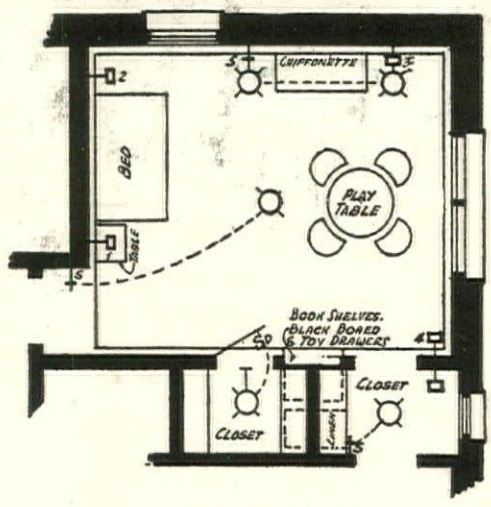
These individual floor plans are reproduced from a very instructive booklet prepared for distribution to those who visited the house during the exhibit. The plans are valuable for the information they offer regarding proper provisions for both lighting and convenience outlets.

With each plan is appended a list of desirable electrical equipment for each particular room. Convenience outlets to serve these appliances should be provided whenever possible—not necessarily a separate outlet for each one but a sufficient number for convenience and efficiency. Only when under construction can wiring be done to advantage.



Electric Log — **Electric Heater** — **Electric Fan**
Electric Cigar Lighter — **Elec. Portable 'Phone** — **Electric Piano**
Electric Floor Lamp — **Electric Table Lamp** — **Electric Phonograph**

LIVING ROOM



Immersion Heater — **Electric Toys**
Electric Milk Warmer — **Radio Set**
Electric Warming Pad — **Electric Heater**

NURSERY

In Transoms of
LUX LENS
PRESSED TILE
Are Found
Beauty
Daylight
Distinction
Permanence

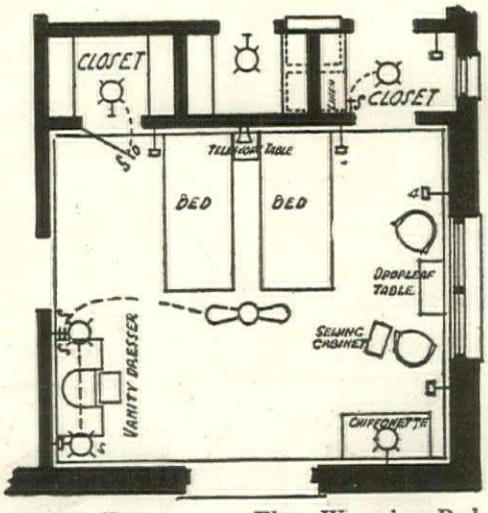
And They Are So Easy To Keep Clean

Write for descriptive Bulletin on better store fronts, with Lux Lens Transoms.

American 3 Way-Luxfer Prism Co.

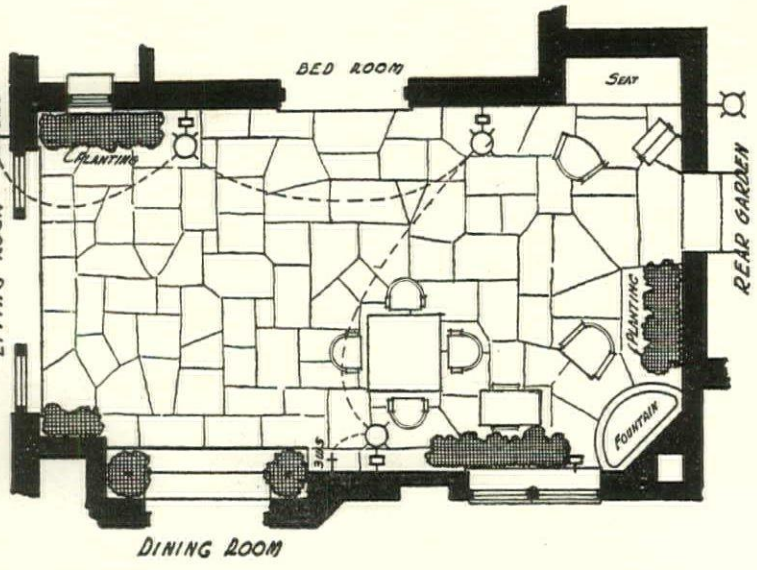
1309 S. 55th St.
Cicero, Ill.

358 Webster Ave.
Long Island City, N. Y

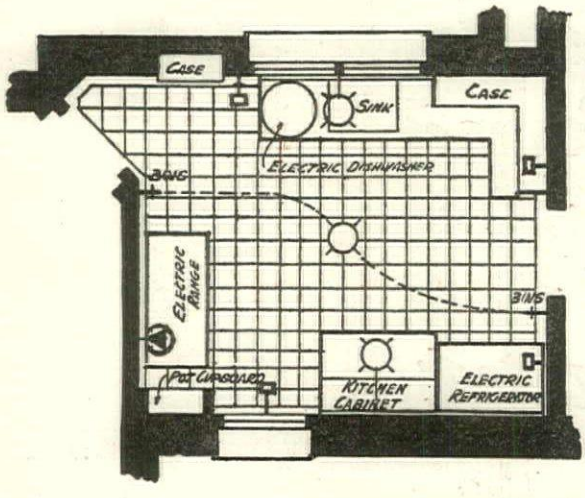


Ceiling Fan
Electric Heater
Immersion Heater
Elec. Warming Pad
Electric Hair Dryer
Elec. Curling Iron

BED ROOM

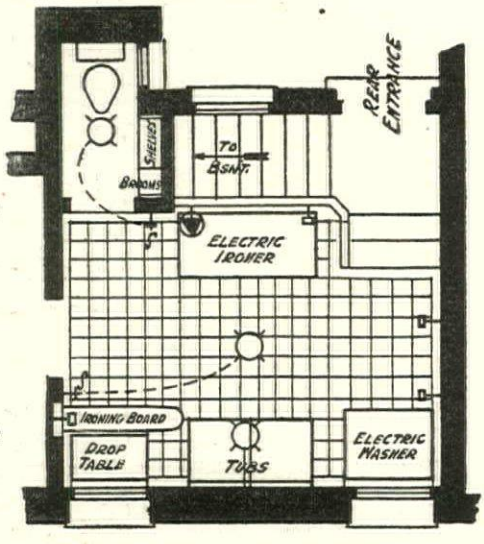


PATIO



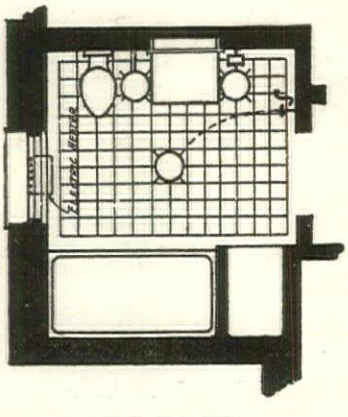
Electric Range
El. Dish Washer
El. Refrigerator
El. Cake Mixer
El. Buffer and Polisher
El. Cre'm Freezer
El. Percolator
El. Toaster
Electric Fan
Power Table

KITCHEN



Electric Ironer
Electric Washer
Electric Irons
Exhaust Fan

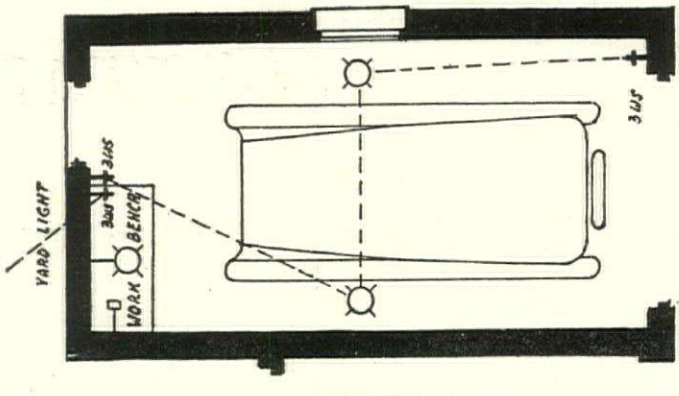
LAUNDRY



Wall Type Heater
Immersion Heater
El. Hair Dryer
El. Shaving Mug
El. Curling Iron

El. Lathe Buffer
El. Tire Pump
Auto Engine Heater
Electric Rectifier

BATH ROOM



GARAGE

The Electrical Installations in El Paso's Home Electrical Should Be Studied for their Application to Modern Homes throughout the Country.

9 Sales Stories

1 Mr. M. R. Austin, of Belleville, N. J., increased his sales of Johns-Manville Asbestos Shingles 300% in two years.

2 Mr. L. T. Burritt, of the Cadillac Lumber Co., Cadillac, Mich., sold a Johns-Manville Asbestos Shingle roof in 20 minutes after the owner had already ordered another brand that cost $100 less. His sales have increased four times in a single year.

3 The Pen-Mar Co., of Baltimore, Md., has developed an intensive plan for getting re-roofing business that is so good that it was made the subject of a special issue of *The Asbestos Roofer*, dated December 20, 1924.

4 Mr. Frank Barnes, of Greenville, Miss., is covering the roofs of his town with Johns-Manville Asbestos Shingles. He says "There is hardly a roofing job we cannot get when we go after it."

5 Mr. W. M. Carter, of Laurel, Miss., usually has about two Asbestos Shingle jobs a week. One month his contracts totalled over $10,000 and they're still increasing.

6 Newman Bros. Grain Co., of Rochester, N. Y., sold 50 orders for re-roofing out of 78 prospects.

7 Seaman and Schuske, St. Joseph, Mo., sold two carloads of Asbestos Shingles in 1922, eight carloads in 1923 and last reports were that 1924 would close with twenty carloads.

8 Mr. John C. Muller of Asbury Park, N. J., recently got a phone call at 1 P. M. from a man who had seen an advertisement. At 2:30 he sold this man $1,400 worth of re-roofing.

9 **Right in here there's room for your story—
What shall we say about you?**

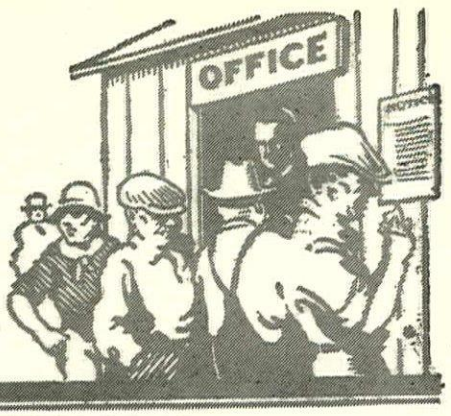
JOHNS-MANVILLE Inc.
292 Madison Ave., at 41st Street
New York City
Branches in 62 Large Cities
For Canada:
CANADIAN JOHNS-MANVILLE CO., LTD.
Toronto

COVERS THE CONTINENT
Through
Asbestos
and its allied products
INSULATION
BRAKE LININGS
ROOFINGS
PACKINGS
CEMENTS
FIRE PREVENTION PRODUCTS

JOHNS-MANVILLE
Asbestos Shingles

OFFICE and JOB MANAGEMENT

Things the other man has found out that save money



Masonry Estimating and Details

By I. P. Hicks

FIRST, we will take up the matter of estimating the quantities of brick for building brick walls. The size of the brick and the thickness of the mortar joint have much to do with the amount of material required for any job. It is important that the contractor should know these things before estimating the material. It makes but little difference just for the foundation of an ordinary residence, but for a large brick building this difference may run up into several thousands, so it is important to know what you are doing when making an estimate.

The standard size of face brick as adopted by the American Face Brick Association is 8″ x 2¼″ x 3¾″ and most manufacturers of common brick are now conforming to the same size so that their brick can be more readily used with the face brick in backing up and in joining the face brick wall with a wall laid up with common brick. Following is a table giving the number of face brick required per square foot of wall surface according to the thickness of the mortar joint used.

Number of Face Brick Required Per Square Foot

Thickness of Joint.....	¼″	⅜″	½″	⅝″
Number of Brick.....	7	6½	6¼	6

To estimate the number of brick required find the total area of wall surface and deduct for all wall openings over 8 square feet and multiply by the number shown in the table according to the thickness of the joint used.

Ordinarily nothing need be figured for waste. What is gained on openings less than 8 square feet and on turning corners of the building will usually make up for the waste. But if there is a reveal around the openings of 8″ to 12″ or more faced with face brick, then this has to be figured as wall surface.

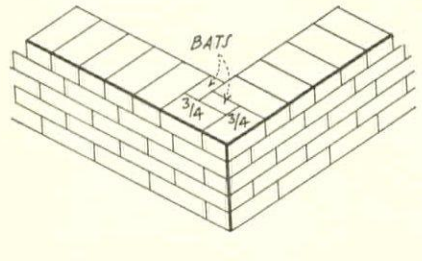


Fig. 1 Common American bond. Two ¾ brick are used on corner to avoid vertical joints

It is best to figure separately the reveals and all other places where face brick are used without the backing of common brick, for the reason that when you have the face brick figured, an 8-inch wall will take an equal number of common brick. A 12-inch wall takes twice the number; a 16-inch wall three times the number, and so on for each additional brick in thickness of the wall. In fact, you multiply the number of face brick by the number of tiers of common brick used for the backing.

If more than one tier is used for the backing, make the proper deductions for the corners, for the gain in turning corners on a thick brick wall is quite considerable.

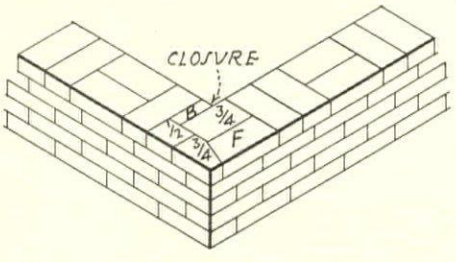


Fig. 3. Flemish bond with double header and one stretcher. This corner is difficult to lay

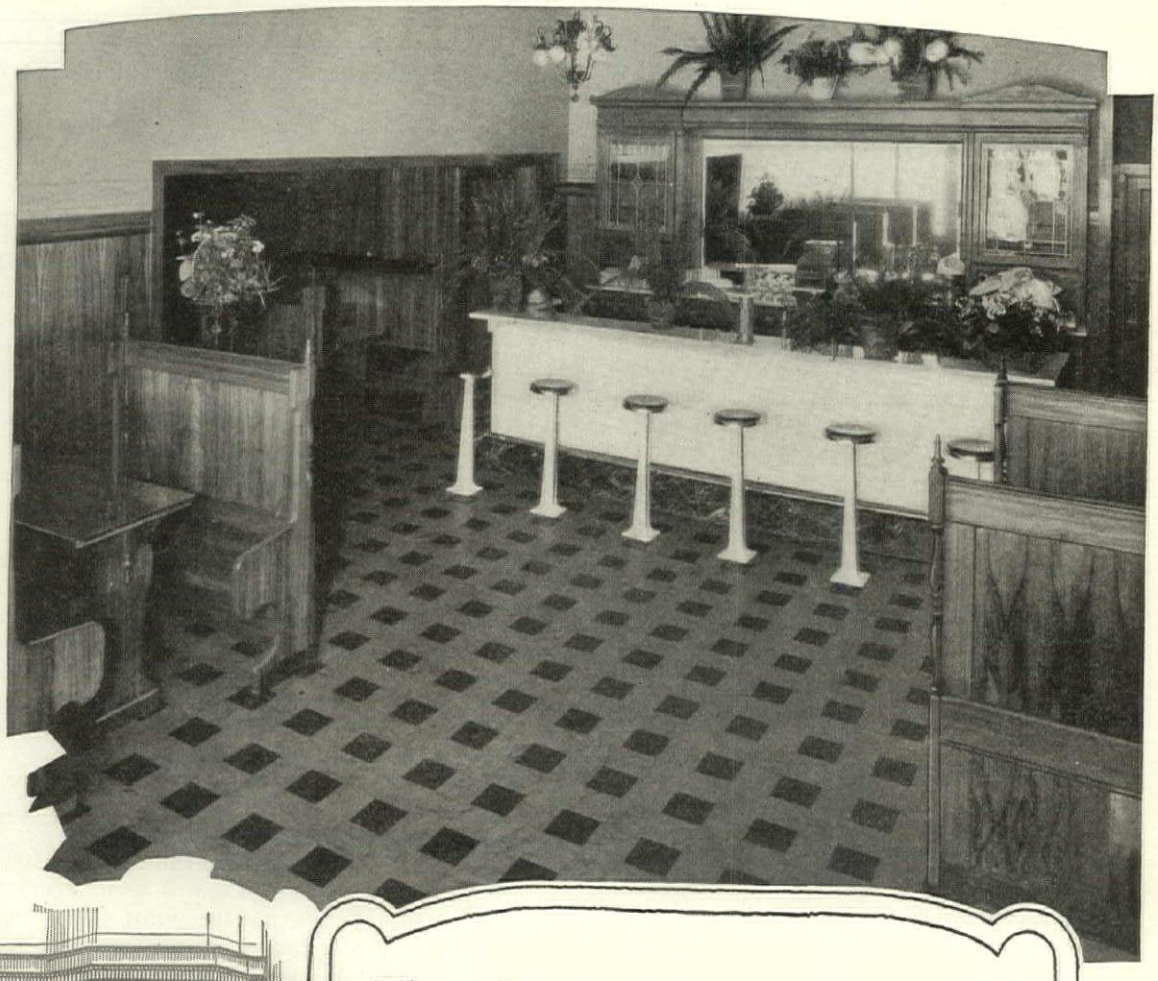
A percentage has to be added to face brick on account of the bonding, depending upon the kind of bond used in laying up the wall. Figure 1 represents the common American bond. Two ¾ brick are used on the corner in order to avoid the vertical joints in the header course coming in direct line with the stretcher course just below, the two little corners to be filled with bats as shown. For a bond of this kind at every 5th course, add 20% or 1/5. If the bond is at every 6th course, add 16-2/3% or 1/6. If every 7th course, add 14-2/3% or 1/7.

Figure 2 represents a Flemish bond with a single header and one stretcher. With this two ¾ brick are used on the corner and a closure piece of a half brick split lengthwise. By this means no vertical joints will appear in the bonding course directly over the joints in the course below. For this kind of bond every 5th course, add 5-2/3% or 1/18.

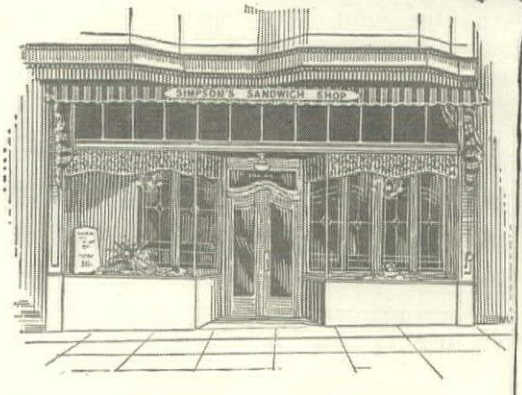
Figure 3 shows a Flemish bond with a double header

Armstrong's Linoleum

for Every Floor in the House



Look for the CIRCLE "A" trademark on the burlap back



This is the Simpson Sandwich Shop, in San Francisco, Calif. The floor is Armstrong's Marble Inlaid Linoleum, Pattern 71, cemented over a deadening felt lining on a subfloor of concrete. Installation by the Redlick Newman Company.

Have You this Specification Book?

The fourth, completely revised edition of "Armstrong's Linoleum Floors," the linoleum handbook for builders and architects, contains 36 pages of data, including specifications for laying, tables of gauges and weights, and colorplates. Bound in 8½ x 11-inch manila folder. Free to any builder upon request.

The Armstrong specifications are also contained in the Nineteenth Edition of Sweet's Architectural Catalog, pages 512-517.

Floor Beauty in the Smart Shop

HOW quickly an appropriate linoleum floor can make over a simple little refreshment shop! Take away this floor of Armstrong's Marble Inlaid, and half the appeal of this place is gone.

This pattern of red-brown-and-yellow-streaked gray marble, interspersed with six-inch blocks of black, is one of a score and more of fine new designs in Armstrong's Inlaid Linoleum of special interest to the architect and builder. These designs give you color and design in floors at moderate cost. Any linoleum floor can usually be completely and permanently installed for from 25 cents to 50 cents a square foot.

Every shop, store, restaurant, and office can afford to have a beautiful linoleum floor, quiet, comfortable, long wearing, and easily maintained. If you are not familiar with the fine patterns available in Armstrong's Linoleum, ask for "Business Floors," which shows colorplates.

Armstrong Cork Company, *Linoleum Division,* **Lancaster, Pa.**

and one stretcher. This corner is more difficult to lay than any of the others. On the corner use one ¾ brick and one full brick with the corners clipped as shown. Next use one ¾ brick and one ½ brick as shown, filling in the remaining portion of the corner with bats; then you are ready to start the double header and single stretcher bond.

No vertical joints in the bonding course will come directly over the vertical joints in the course below, thus making a perfect system of forming the joints which is so essential on all good jobs of brick work.

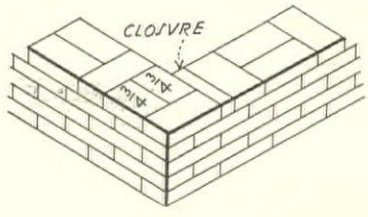


Fig. 2. Flemish bond with single header and one stretcher. Two ¾ brick are used on corner and a closure piece of a half brick split lengthwise

For this kind of bond every 5th course, add 10% or 1/10.

It is evident that the face brick used in the bond displace an equal number of the common brick used in the backing, consequently the same number of common brick should be deducted as was added for the face brick bond.

Quantities of Material Required for Laying 1,000 Brick

Mortar For Laying 1,000 Bricks, 3/8 In. Joint

Proportions	Quantities		
	Cement	Lime	Screened Sand
Cement mortar: 1 part cement 2 parts sand	7 sacks		1,350 lbs.
1 part cement 2½ parts sand	5½ sacks		1,350 lbs.
1 part cement 3 parts sand	4½ sacks		1,350 lbs.
Lump lime mortar: 1 part lime 2 parts sand		1 bbl.	1,350 lbs.
1 part lime 2½ parts sand		⅞ bbl.	1,350 lbs.
Hydrated lime mortar: 1 part lime 2 parts sand		3½ sacks	1,350 lbs.
1 part lime 2½ parts sand		3 sacks	1,350 lbs.
Cement-lime mortar: ½ part cement 1 part lime 3 parts sand	1 sack	2½ sacks	1,350 lbs.

In the tables given, Portland cement is figured by the sack, the way it is usually sold and handled. A sack weighs approximately 95 lbs. and is also rated as 1 cubic foot in estimating. A barrel of lump lime is estimated at 180 labs. Hydrated lime is put up and sold in 50 lb. sacks. Approximately 4 sacks of hydrated lime equal 1 barrel of lump lime.

Mortar for Laying 1,000 Tile One-Half Inch Joint

Size of Tile	Cement	Lime	Screened Sand
4 x 5 x 12	6¾ sacks	¼ bbl.	1,800 lbs.
8 x 5 x 12	12 sacks	½ bbl.	3,600 lbs.

Mortar Required to Lay 100 8 x 8 x 16 Cement Blocks

Cement mortar: 1 part cement 3 parts sand	1½ sacks	Screened Sand 450 lbs.

Tile Sizes Compared With Brick

		Approximate Weight
4 x 5 x 12 tile equals.....	3 brick	9 lbs.
8 x 5 x 12 tile equals.....	6 brick	15 lbs.
4 x 12 x 12 tile equals.....	7 brick	20 lbs.
8 x 12 x 12 tile equals.....	14 brick	36 lbs.
12 x 12 x 12 tile equals.....	21 brick	48 lbs.

The above is figured for a ⅜″ mortar joint in laying the brick.

Estimating Quantities of Hollow Tile for Backing Brick Walls

Tile Face	Multiply Sq. Ft. of Wall by:
4 x 12	2.6
5 x 12	2.15
8 x 12	1.4
12 x 12	0.94

When 5 x 12-inch tile are used for backing, the bonding course of brick will occur every 5th course of brick with a ⅜″ mortar joint, then one-fifth of the tile should be deducted and brick size tile or common brick should be added for use behind the stretcher in the bonding course, adding at the rate of 12 to every 16 square feet of wall surface.

If 12 x 12 tile are used, then the bonding course will occur every 6th course with a ¼″ mortar joint. In this case one-sixth of the tile should be deducted and brick size tile or common brick added at the rate of 12 to every 20 square feet of wall surface.

Estimating Tile for Solid Tile Walls

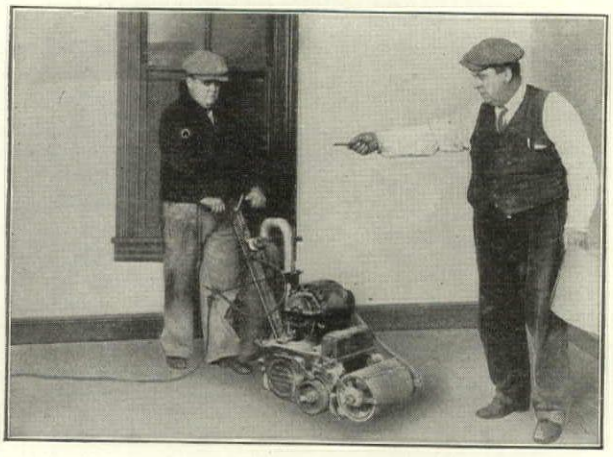
Size of Tile	Thickness of Wall	Multiply Square Ft. by:
4 x 5 x 12	4 inches	2.15
8 x 5 x 12	8 inches	2.15
8 x 12 x 12	8 inches	1.4
12 x 12 x 12	12 inches	0.94

In estimating for tile, deductions for all openings over 8 square feet in size should be made and 2 to 3 per cent. added for waste, since some waste is bound to occur.

Accurately estimating the quantity of mortar needed on a job will insure quite a saving—preventing waste makes for profit.

OVER $1600 PROFITS IN THREE MONTHS

Made by J. A. Thomas of Montgomery, Ala.



The manufacturers of the "American Universal" floor surfacing machine are constantly receiving letters, similar to the one quoted below from men who have gone into the floor surfacing business the "American Universal" way. We thought the story of Mr. Thomas might prove of interest to a great many men who find themselves out of work during the cold winter months and other slack business seasons.

"I'm keeping my 'American Universal' busy all the time. As soon as I finish one job there is another waiting for me. It keeps me busy but I don't care as long as I can pull down $176.11 on one job like I did last week.

"I have had my 'American Universal' for three months now. In balancing my accounts tonight I find that I have made $1,653.44 clear money since I started in the business, which amounts to over $100.00 per week clear profit for me and my 'buddy'—the 'American Universal.'

"I surfaced four bowling alleys yesterday and had twelve calls during the day to go out and look over old floors and make prices on work of resurfacing and finishing them.

"I went out today while my operator was working and contracted for five of the jobs, and never missed a prospect.

"One contractor told me not to wait for orders from him but to go on the job and watch the houses and when the floors are ready to surface, to get on them. He told me to measure up the jobs and send the bills to him as the floors were finished. This fellow is not a big contractor but he builds about four houses a month, averaging about a thousand square feet to the house, which is not a bad customer to have on my books."

The manufacturers of the "American Universal" electrically driven floor surfacing machine with which Mr. Thomas and so many others have made such remarkable earnings, will gladly supply the readers with full information regarding how this machine can be secured on a five-day trial so that any carpenter can fully convince himself as to whether or not he wants to buy a machine. The Company is willing also to supply a lot of other valuable information regarding the floor surfacing business, all of which will be furnished without any obligation whatever to those inquiring. Address all mail to The American Floor Surfacing Machine Company, 514 South Saint Clair Street, Toledo, Ohio. ADV.

Floor Surfacing Jobs Insure Steady Income

Add $5000 to Yearly Profits



KEEP THE MONEY ROLLING IN DURING THE WINTER MONTHS

Go after and get the floor surfacing business in your locality with an American Universal Electrically Driven Floor Surfacing Machine. When building is at a standstill and there are no profits coming in, you can make $25.00 to $50.00 a day resurfacing old floors with the American Universal floor surfacing machine. It does the work of six men.

WORK EASY TO GET

The beautiful smooth, uniform work which the "American Universal" floor surfacing machine turns out puts the most expert hand scraper's best efforts to shame. There is absolutely no comparison.

WHO STANDS A BETTER CHANCE THAN YOU?

You know the owners of buildings and homes where floors require resurfacing. You are acquainted in your community and this will make it easier for you to land the contracts for resurfacing the great number of floors in your locality which are in need of it (and badly so) right now.

AN INVESTMENT WORTH $5,000 A YEAR TO YOU

An "American Universal" floor surfacing machine is always a good investment. It will replace six men on your payroll during the building season—and turn loss into big profits during the dull season. One fair sized job pays for the machine.

THE AMERICAN FLOOR SURFACING MACHINE CO.

514 S. St. Clair Street, Toledo, Ohio

Write Today for Full Particulars

For the Builders' Library

English Precedent for Modern Brickwork, edited by "The Architectural Forum": 100, 8½x11 inch pages, bound in stiff paper, price $2.00; published by "The Architectural Forum" for The American Face Brick Association, Chicago, Ill.

In the cause of brick as a home-building material the publishers of this volume are responsible for an unqualified achievement. The treatment of old English brick work is incomparably charming in the 44 plate illustrations that make up the edition. Tudor and Georgian designs with a few recent examples of American work show the influence of the early English period upon our present-day architecture. The spirit of the book is in itself sufficient to charm its readers.

Compendium of Building Data by J. Soman, B.S.C.E.: 18, 8x11 inch pages, paper bound, price $1.00; published by Jual Publishing Company, 581 East 170th Street, New York City.

While the author compiled this information with respect to the new York Code, he recommends it for national use. The New York Code is accepted by many places having no code of their own, while in addition architects and engineers called to New York for structural work, find such information invaluable. Charts and tables make up the arrangement of this handy data book.

Damp Walls by Ernest G. Blake: 248, 5x7½ inch pages, cloth bound, price $3.00; published by D. Van Nostrand Company, 8 Warren Street, New York City.

This handbook deals with the various causes of dampness in house walls and the best methods of remedying the defects. Temporary remedies and permanent correction of house walls are taken up in several chapters. Another chapter deals with condensation—its cause and effect, "dew point" and general remedies.

Library Buildings by Chalmers Hadley: 154, 7x10 inch page, cloth bound, price $3.50; published by American Library Association, Chicago, Ill.

When the smaller cities plan to build a library, seldom is there a resident architect thoroughly acquainted with library design. It was with this in view that Mr. Hadley prepared his volume. Only buildings costing less than $50,000 have been considered. Of this class representative examples are taken from many cities throughout the country. Exteriors and in some cases details of interiors are shown with accompanying plans. The arrangement and typography of the volume are excellent.

Tree Ancestors by Edward Wilber Berry of Johns Hopkins University: 272, 6x9 inch pages, cloth bound, price $3.00; published by Williams & Wilkins Company, Baltimore, Md.

For teachers, students and laymen, the publishers recommend this book for study. The main theme is the geological or distribution in time, and the geographical or distribution in space, of the trees. All technical terms that seemed unnecessary have been eliminated, with the result that the book is well within the comprehension of the layman.

Mechanics' Lien Law, A Treatise, by C. Arthur Jensen, Ph.D.: 652, 6x9 pages, cloth bound, price $7.50 published by Clark Boardman Co., Ltd., New York City.

The author states that the book is an attempt to offer in usable form the mechanics' lien law of New York and the rules of pleading and procedure as laid down by the courts. The contractor will find it a valuable reference work.

The Concrete Dope Book by W. H. Stewart: fourth edition, 16, 4½x7½ inch pages, bound in stiff paper, price $.25; published by W. H. Stewart, Waterloo, Iowa.

For contractors' every-day figuring this little book is compiled with unusual conciseness and arranged in good order for hasty reference. It is intended mainly as a check on the estimator's own figures.

IN the prebuilding season, the builder must complete his plans for the coming year. The vast volume of work promised for 1925 makes such preparation this year doubly necessary. Instruction and reference books, at all times the useful tools of construction engineers, are indispensable when the rush of work makes rule-of-thumb methods impractical. We will gladly assist our readers in the selection of the best books on a particular subject. For the convenience of our readers any book published may be ordered through BUILDING AGE AND NATIONAL BUILDER, Book Department, 239 West 39th Street, New York City.

Selected Monuments of French Gothic Architecture, text by John V. Van Pelt, F.A.I.A., A.D.G.F.,: 214, 8½x11½ inch pages, bound in boards, price $6.00; published by The Pencil Points Press, Inc., New York City.

In the design of office buildings and schools, as well as churches, these designs will prove useful to the architect and builder. The first two volumes of "The Library of Architectural Documents" series: "Architecture Toscane" and D'Espoy's "Fragments D'Architecture Antique," serve a purpose similar to the aim of this recent volume. The usefulness of the Gothic in commercial or educational design, well known to builders, is brought out to good advantage in this beautifully prepared book.

Practical Bricklaying by Howard L. Briggs, B.S., M.A., and William Carver: 224, 4½x7½ inch pages, cloth bound, price $1.75; published by McGraw-Hill Book Company, 370 Seventh Avenue, New York City.

It is interesting to note that here a director of vocation and an architect have collaborated to produce a handbook of instruction for the journeyman bricklayer and the bricklaying apprentice. The purpose of the work is to improve and facilitate bricklaying jobs. Various illustrations of right and wrong methods and of work in process are scattered throughout the pages.

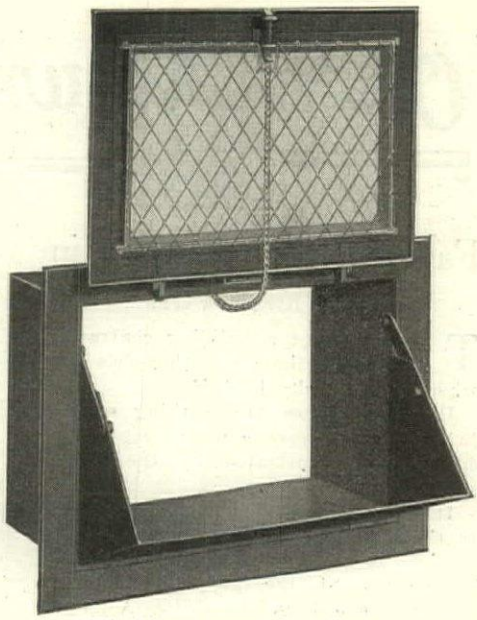
Machine Drawing Problems by Edward Berg and George Elleson: 148, 8x9 inch pages, cloth bound, price $1.60; published by The Manual Arts Press, Peoria, Ill.

Elementary treatment of a text book involves more than the use of non-technical terms. In this recent volume the authors have succeeded in doing a very creditable task—they have evolved problems that are not alone simple but eminently practical. The builder who has undertaken to make his own working drawings without a fundamental training in architectural drawing will appreciate this feature of the text.

The Building Labor Calculator by Gordon M. Tamblyn: third edition, 4x7 inch pages, loose-leaf in leather binder, price $10.00; published by Gordon M. Tamblyn, Denver, Colorado.

This hand book is designed for every-day use in estimating labor costs. Based on the principle that the average output of the average American workman is constant, various tabulated costs are arranged to facilitate quick and accurate computing. The book is self-explanatory and requires no extensive study prior to use. Its convenient form allows of the addition of personal notes and memoranda in one handy volume.





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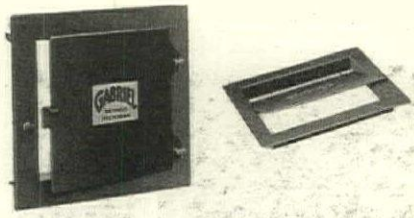
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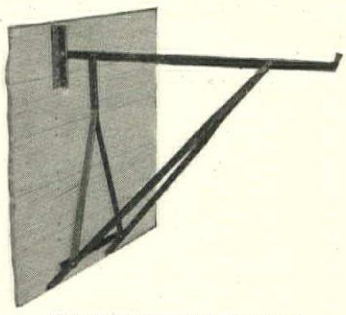
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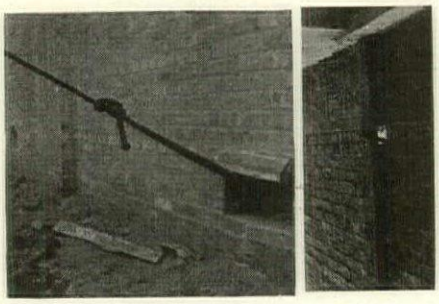
On the Job with the Construction Editor

Fastening a Guy Line in a Brick Wall

THERE is not a building contractor who, sometime or other has not wished for a "sky hook."

However, if we are working near a brick wall we have a means readily at hand as is illustrated by the photographs.

It will be necessary to provide a hole in the wall about one foot long and six or eight inches high so that there will be no danger of the guy line rubbing against the wall and breaking. A length of plank, about six or eight feet, will also be needed.



Set the plank on the side of the wall opposite to that from which the guy line comes, and pass a loop of the guy line over the plank. In order for the guy line to come through the hole, one of three things must happen: the plank must break, the guy line must break, or the wall must come down. There is little likelihood of either of these conditions occurring if proper care has been exercised and the method illustrated here will be found perfectly satisfactory under almost any conditions. It may be well to set a block against the face of the wall at the point where the guy line goes through, in order to prevent the wearing of the line by rubbing against the edge of the brick.

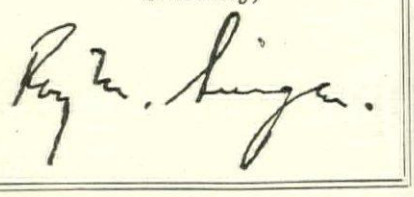
Three precautions should be observed: (1) limit the height of the opening to eight inches, (2) use a plank at least six feet long so that the load transmitted by the guy line will be distributed over a large area of the wall, (3) set a block in the face of the wall where the guy line enters to prevent the wearing of the line by its rubbing against the edge of the brick opening.

A Permanent Base for Builder's Level

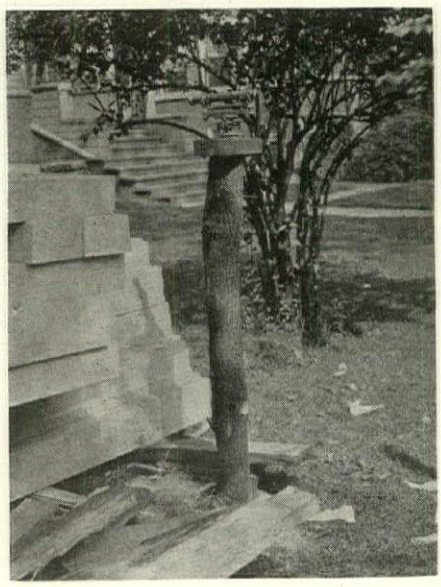
EVERY builder knows the importance of maintaining the foundation at the correct level, and every mason contractor is, or should be, familiar with the builder's level. This instrument is indispensable to the man who is engaged in the business of mason contracting for it is by its use that the level of the building is determined.

STILL on my journeyings from place to place and job to job, I am presenting some additional material gleaned around the country. It has been a pleasure, as well as an instructive experience, to meet the keen and enterprising builders and contractors whom our country boasts. Thanks to their friendly co-operation, my visit to the Far and Middle West has been fruitful of much interesting data. Do not be surprised if, during my travels, I visit you "On the Job."

Sincerely,



The ordinary method of using the level



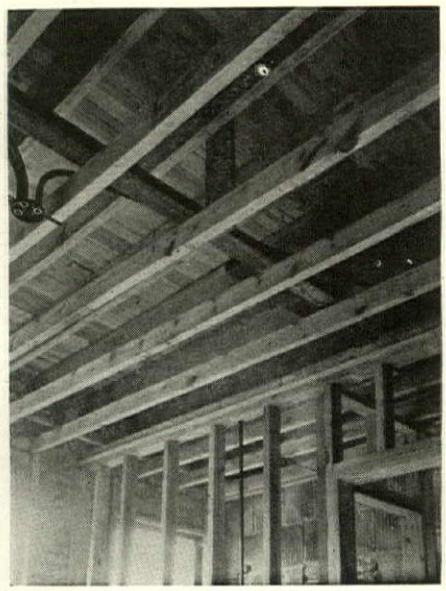
is to set it on the tripod each day when the work begins, and to take it down at night. This means that for each day's work the height of the instrucent above the grade will be different and a new H. I., or Height of Instrument, will have to be used in the calculations for the day.

The enterprising builder who had the job where this photograph was made had an idea which may well appeal to others. Instead of setting his level on a tripod each day, he used a stump which was in such a location that it afforded a view of the entire work.

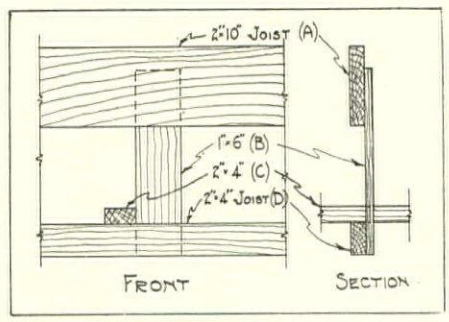
Thus, since the stump was stationary there was little difference in the H. I. for each day's work, and there was absolutely no danger of the tripod being overturned and the level damaged.

Stiff Ceiling Joints

IN apartment buildings where flat roofs are used, it is necessary to provide a slope to the roof so that rainwater may drain away. This requires that two sets of joists be used on the top story, one for the room, which is sloped, and another for the ceiling, which must be leveled.



It is possible to stiffen these ceiling joists (D) if they be of long span by using the method shown here. At their mid-point, where the deflection is bound to be greatest, a piece of 1"x6" (B) is nailed to the ceiling joist (D) and to the roof joist (A) so that the joist (D) is really suspended from the joist (A). This will increase the stiffness of the ceiling to a great degree. The stiffness may be further increased by a cross strip (C).



[BRILLIANT.....DIFFUSIVE.....BEAUTIFUL]



NEW ST. LOUIS UNIVERSITY HIGH SCHOOL, St. Louis, Mo. Barnett, Haynes and Barnett, *Architects*, St. Louis, Mo.
Diffusion of light through Tapestry Glass in chapel. Design appears in lines of clear glass, field sand-blasted.

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Tapestry Glass is now installed in many new and beautiful churches, schools, office and business buildings, residences and apartments throughout the country. Investigate its possibilities through the nearest glass dealer or write for catalog and samples to the Pittsburgh Plate Glass Company.

PITTSBURGH PLATE GLASS CO.
GLASS VARNISH PAINT

On the Job with the Construction Editor

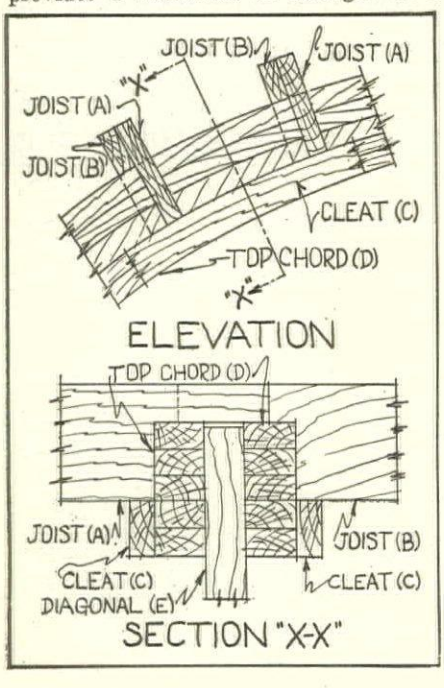
Framing Floor Joists to Wood Trusses

METHODS of building public garages have undergone a considerable change when compared with those built years ago. The older buildings made no attempt to provide a clear floor area but were cluttered up with posts to support the roof, thus making it a difficult task to turn cars on the floor.



Modern garage buildings are designed to do away with the nuisance of an obstructed floor. Not only garages, but industrial buildings as well, and other types of structures such as dance halls, and sales pavilions require that the floor space be clear, and engineers have provided a simple and comparatively inexpensive type of construction which is especially adapted to the requirements demanded.

This type of construction involves the use of the laminated wood truss, of which there are several designs, some patented and others not. This truss provides a maximum of strength at a minimum of cost and is generally fabricated at the building site, being built up of small dimension lumber as shown in the accompanying sketch.



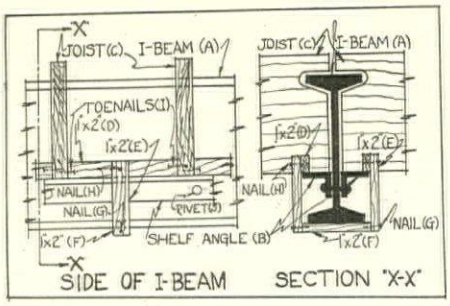
There are as many ways of framing roof joists to these wood trusses as there are designs of trusses but it is the writer's opinion that the method illustrated here is as simple and effective a way of doing the job as any.

It consists of having a shelf-cleat (C) fastened at the lower part of the top chord (D) of the truss. This may be done while the truss is being fabricated or it may be put on after the trusses are erected, although the former method is preferable.

The joists (A) are cut so that they lap at the top chord of the truss (D), and rest on the shelf-cleat (C). While this shelf-cleat (D) does not provide a great amount of bearing for the joists (A), there will be no danger of their slipping off if they are nailed together at the lap.

Furring a Steel Beam for Lath

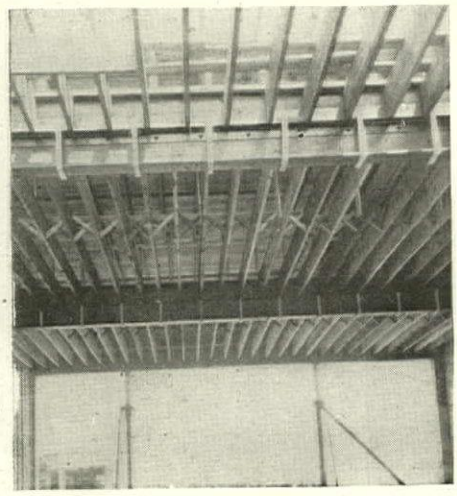
ON some buildings where steel girders are used it becomes necessary to allow the steel to project below the surface of the ceiling. This may be due to the framing system employed, to the necessity for maintaining a given elevation, or in an effort to conserve wall height; at any rate some provision must be made for attaching the lath to the beam in order to hold the plaster.



Where metal lath is used, the problem is simple. The metal lath is wired to the beam with thin wire and the plaster applied directly. In cases where wood lath is used, however, the problem is not so easily solved and a bit more work is required.

There are several conditions to be encountered in framing, each demanding a different method of furring but where it is necessary to fur out for the lather with joists framed in the manner illustrated here, the method shown will be found to be simple as well as inexpensive.

The strips used for the furring are the ordinary 1" x 2" rough pieces used in furring brick walls. In this case, pieces are cut the same length as the space between joists and nailed between the joists somewhat after the fashion of solid bridging, their position being horizontal, and their lower edge coinciding with the lower edge of the joists.



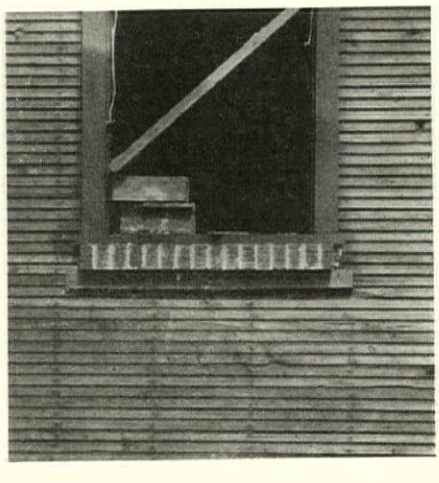
To these horizontal strips were nailed vertical pieces, their length being such that they allowed room for another horizontal strip to be nailed below the steel girder. This was done on both sides of the girder.

Then another horizontal strip, set against the lower flange of the girder was nailed to the two verticals, thus providing a wood nailing base for the lath all around the girder. If 1" x 2" furring strips are not available, any sort of light scrap lumber may be used.

A Trim Brick Sill

IT is sometimes difficult to get a straight horizontal line in a brick sill, but if a short cleat is nailed directly under the sill and the bricks laid upon this cleat, they are bound to be set true.

This photograph was taken on a job being done by the Commercial Building & Securities Company of Des Moines.



for WALLS



Disfigured for Life!

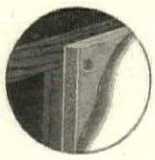
More treacherous than earthquakes or tornadoes—more costly than fires or vandalism—is the damage that follows carelessness in the selection of wall materials. In cottages, in mansions, in factories and in skyscrapers—everywhere walls are built—lack of interest in lath and plaster has left its ugly traces.

To you, who some day will build, these blemishes ought to be "the handwriting on the wall"—visible warnings that the beauty of your rooms, too, will be disfigured for life *unless* your walls are made of materials that will withstand the vibrations, the settlings, the knocks and the other abuses of time.

Look about you. There are some walls that have come through the years *undamaged*—enough to convince you that cracks, lath marks, spots, checks and other wall defects can be avoided. They are the exceptions which prove the wisdom of knowing, exactly, the quality of the plaster or any other wall materials you buy.

Let us send you samples and descriptions of Beaver American Plaster, Plaster Wall Board, Gypsum Lath, Beaver Tile Board or Fibre Wall Board. Compare them for price or quality. Convince yourself that Beaver Products build walls that stand unblemished through the years. Mail the coupon today.

BEAVER PRODUCTS



One Type of Beaver Wall Construction

Beaver Gypsum Lath under Beaver American Plaster is dependable wall construction. Beaver Gypsum Lath will not swell or buckle—shrink or crack—stain or disfigure decoration. It offers greater fire protection. Gives protection against vermin. A better sound deadener. A better insulator of heat and cold. A stronger base for the plaster—providing a perfect natural bond. Mail coupon for particulars.

BEAVER PRODUCTS
for WALLS

Beaver American Plaster
Beaver Gypsum Lath
Beaver Plaster Wall Board
Bestwall
Gypsum Partition Block
Beaver Fibre Wall Board
Beaver Tile Board
Beaver Architectural and Industrial Varnishes and Enamels

for ROOFS

Slate-surfaced Shingles and Slabs to meet every requirement of color and design
Special Re-roofing Shingles
Slate- and Smooth-surfaced Roll Roofing—in weights and finishes for every use
Built-to-order Roofs
Roof Paints and Cements

FREE
samples and descriptions

THE BEAVER PRODUCTS CO., Inc.
Buffalo, N. Y., Dept. N-2
(or) Thorold, Canada
(or) The Beaver Board Co., Ltd.
133-136 High Holborn, London, England

Gentlemen: Please send me samples and description of Beaver American Plaster and Gypsum Lath. I am also interested in other Beaver Products listed below:

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Name.....

Address.....

City..... State .....

The above advertisement will appear in the February 7th issue of the *Saturday Evening Post*

On the Job with the Construction Editor

A Trimmer's Ladder

SCAFFOLDING is expensive to erect, as every contractor knows only too well. For this reason job profits may be increased by cutting down the amount of scaffolding used on a job, thus saving the material required and the mechanic's time used in erection.

Scaffolding should be used only where absolutely necessary; if any substitute for it can be found which is not as expensive as the scaffolding itself then it were wisdom on the part of the contractor to use it.

It sometimes happens that carpenters will erect interior scaffolding in order to place such material as cornice moulding, trim set high on the wall, and etc. This is not at all necessary since there is a way of providing the carpenter with a means of reaching the high places, and that is by the use of a trimmer's ladder such as is illustrated here.

The ladder is 5 ft. high, and although strong enough for the purpose required of it, exceedingly light. The fact that it is lightly built makes it unsuitable for any purpose except that for which it is originally intended.

The stringers which carry the ladder treads are made of 1" x 6", notches being cut out at 15" intervals. This size provides a comfortable step which is fairly easy to ascend and descend. The treads are nothing more than 1" x 4", with the exception of the top tread which is made wider so that it furnishes a fairly wide platform upon which the trimmer may find a solid footing.

The leg which forms one of the supports, is also 1" x 4", fastened at the top of the ladder by being nailed to the inside of the stringers. At the back of the ladder a diagonal brace runs across the legs and serves to brace them.

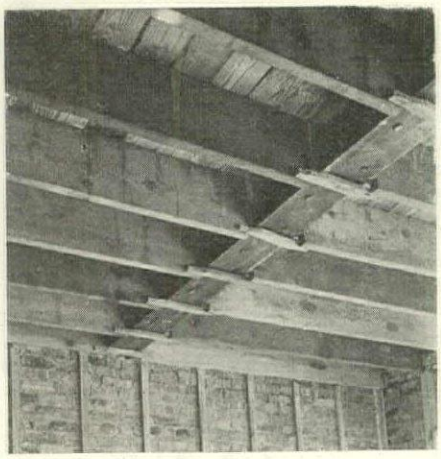


The horizontal braces are set about 1 ft. off the ground so that the upper edge of the brace sets under the first tread. Everything is nailed securely, and the ladder moved about in the open position.

All told, the ladder is 60" high, and has a base of 30" from the outside edge of the stringer to the outside edge of the leg. The stringers are spaced 27" apart from outside edge to outside edge, and the treads allowed to project over the stringers 1½".

Furring Steel Beams For Lathing

WHERE wood joists are framed to steel beams it is sometimes necessary to provide furring in order to allow the lath to be fastened. In the case illustrated here, the joists were framed to a plate fastened to the lower flange



of the I-beam and inasmuch as it was necessary to plaster underneath the beam, some method for holding the lath had to be devised.

It was done as shown in the accompanying illustration and sketch. Small pieces of 1"x2" (B) was set across the I-beam (C), underneath the steel plate fastened to the bottoms of the joists. They were tapered at the ends in order that nails might be driven through them.

In order to take advantage of this method of furring it is necessary to allow the joists to project a short distance (about 1½ inch) below the steel plate (D) so that there is a place provided to which the cleats (B) may be nailed. Two nails should be used instead of one so that a good solid foundation for the plaster ceiling is assured. The above photograph illustrates the application to a job of this method of furring steel beams.



Plumbing Steel Columns

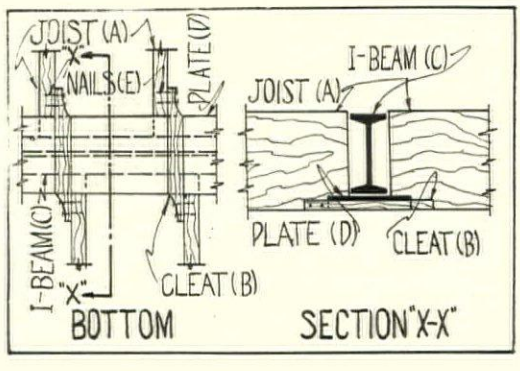
IN most of the buildings erected today it is not uncommon to find steel used for the floor supports instead of wood as formerly. In the smaller buildings the old form of wood joist floor construction is quite generally adhered to but steel is used for columns and girders. In setting the steel columns it is sometimes quite a task to get them plumbed exactly correct.

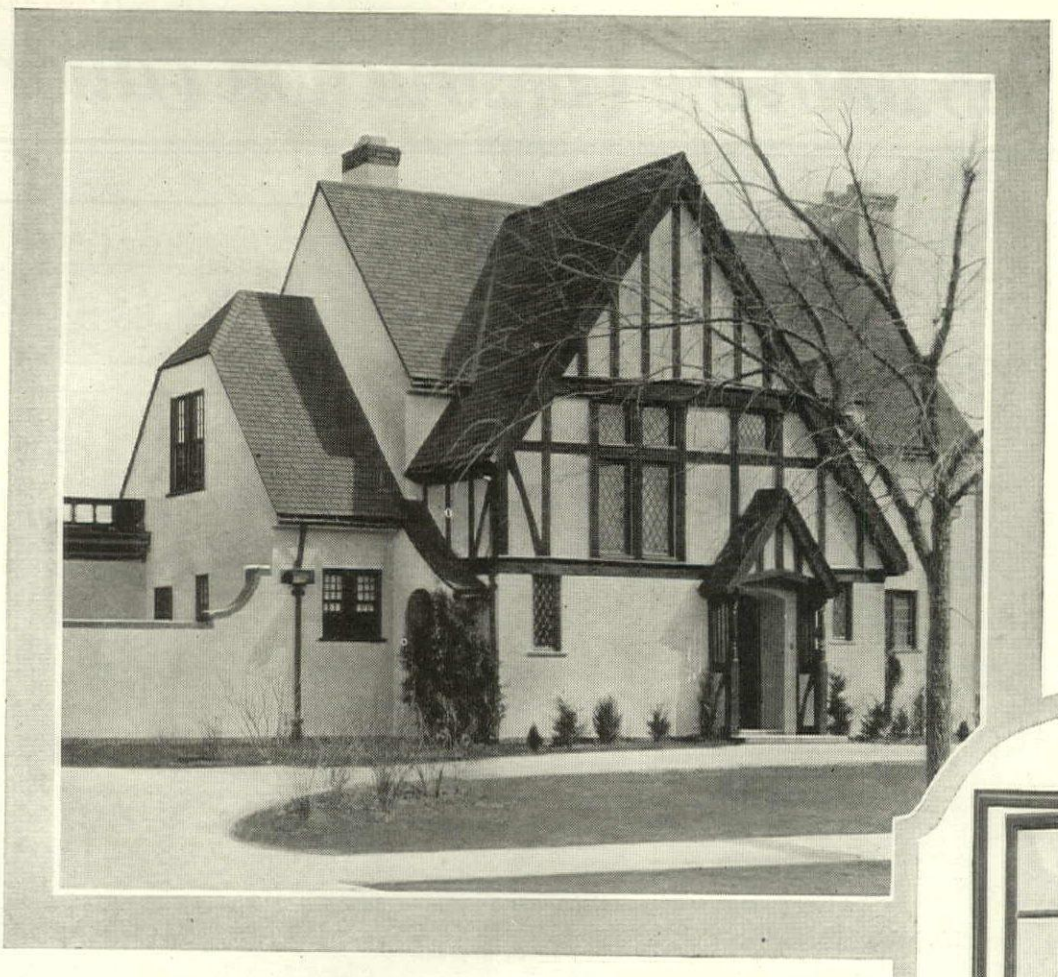
The common way of setting these columns is to fix two base angles to the bottom, and to these angles a plate is riveted. This plate provides a good bearing on the footing for the column and is an essential agent in helping to distribute the load evenly over the footing.

In placing the column in its final position it is customary to spread a layer of cement mortar over the footing and set the column upon the mortar, allowing it to bed itself in position.

It sometimes occurs, however, that it is advisable to tilt the column slightly to assure its being plumb when the mortar hardens. This may be done by driving a couple of nails of a desired thickness between the plate and the top of the column footing.

Thus the column will be tilted and the degree of tilt will depend upon the location of the point where the nails are driven.





CRITTALL

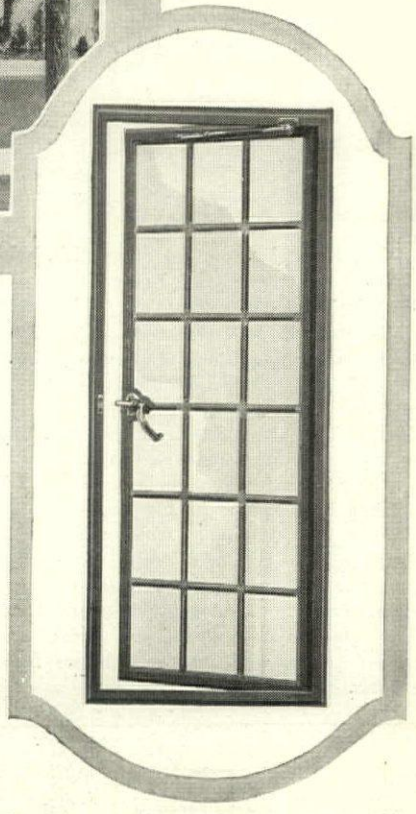
Standard Steel Casements Attract Buyers and Stimulate Sales

The use of Crittall Standard Steel Casements lends a distinctive appearance to a home that immediately lifts it above the average. Prospective buyers are first attracted by their charm, then quickly sold through their practical utility.

Crittall Standard Casements can open either in or out, and when properly installed are guaranteed weather tight. No weatherstripping is required. Hardware is of solid bronze, finished a beautiful dark statuary color. Glazing may be either clear or leaded glass.

Quick sales and complete and lasting owner satisfaction are factors which will readily appeal to every home builder. Insure fast turnover of your completed houses by installing Crittall Standard Steel Casements.

Illustrated Catalogue No. 2-24 giving sizes and types may be had upon request. Screen details are also shown.



Crittall Standard Steel Casements are made of Crittalloy—The Copper-bearing Steel.

Crittall Cottage Casements

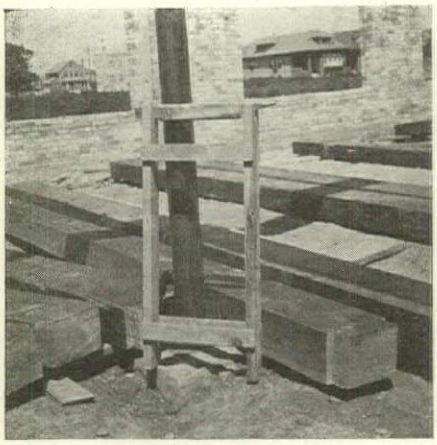
Are standard in size and design and low in cost for use in small residences, apartment houses, etc. They have the usual advantages of steel over wood in that they can be easily operated under varying weather conditions. Made to open out only. Ask for Cottage Casement literature.

CRITTALL CASEMENT WINDOW COMPANY, *Manufacturers*
10957 HEARN AVENUE, DETROIT, MICHIGAN

On the Job with the Construction Editor

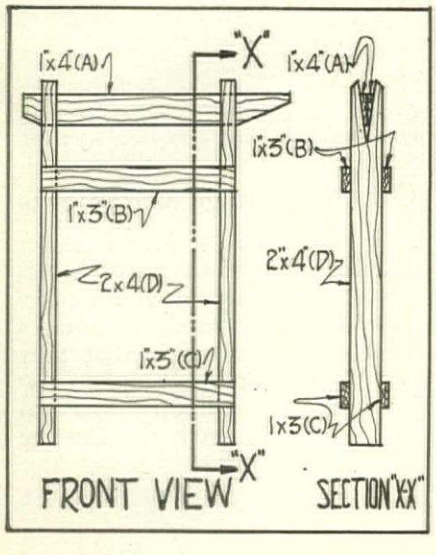
Clamp for Filing Saws

THIS idea may not be new to some contractors but from the many makeshift saw-holders the writer has seen, it will be welcomed by many. It is simple to operate, easy to make, and the time and materials required to put it together will not run up into very much money.



It consists of two 2″x4″ legs (D), held together by the 1″x3″ braces (B). At the tops of the legs (D) a "V" notch is cut so that two pieces of 1″x4″ (A) when tapered at the ends and driven into the notch will be held firmly together. This is the principle of the clamp. The two 1″x4″s (A) need only be tapered at the ends so that they will be held fast when driven into the notches in the tops of the legs.

When it is desired to hold a saw tight for filing, the two 1″x4″s (A) are taken from the clamp and the saw set between them. Then, with the saw between them they are again set in the notch and driven fast with a few light blows from a hammer.



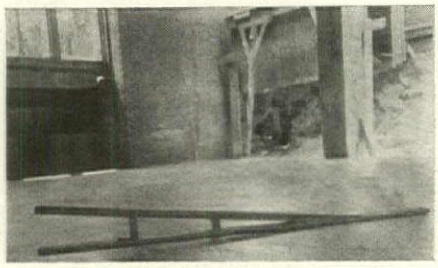
The saw will then be found to be held firmly and will stay so until the 1″x4″s (A) are taken out of the notch. The clamp may be set up anywhere and nailed to any convenient wood column or any stable object in order to hold it upright.

Finishing Cement Floors of Large Area

WHEN it comes to laying cement floors of large area some difficulty may be encountered in finishing them.

For this purpose, the float illustrated here will be found to work in a satisfactory manner. It consists of a piece of 1″x6″ supported on a light truss in order to give it sufficient stiffness so that it will not sag. The handle is made of 2″x2″ and it is held away from the 1″x6″ by means of two other pieces of 2″x2″. The whole arrangement forms a truss which may be depended upon to maintain its shape after much hard use.

It will be found easier to handle this float if the handle is allowed to project beyond the bottom piece. It is also necessary to hold 2″x2″s to the 1″x6″ by toenailing them in such fash-



ion that the toenails do not cut into the lower edge.

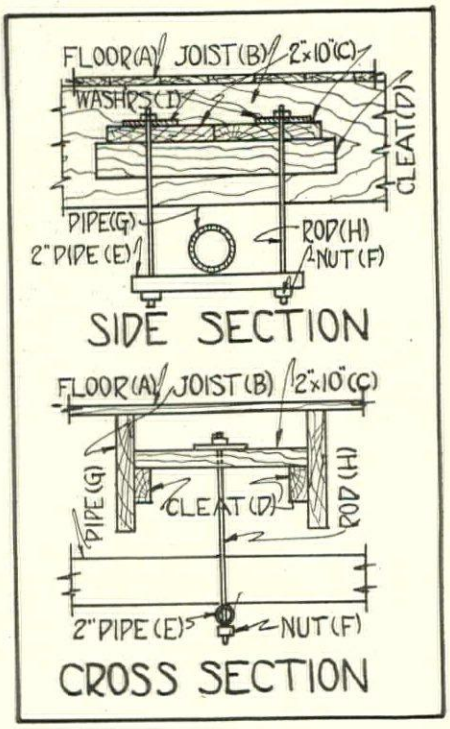
If the nails were allowed to cut the under side of the 1″x6″ they would scratch the cement surface and so defeat the purpose for which this tool is intended.

Hanging Heavy Pipes

IN basements where heavy pipes are to be run it is sometimes a problem to support them. The first means of support that generally presents itself is the floor system of the floor above.

In building up this kind of a hanger system the line of piping should be marked on the joists so that the location of the hangers will be determined. After the location has been made the cleats (D) should be set in place between the joists.

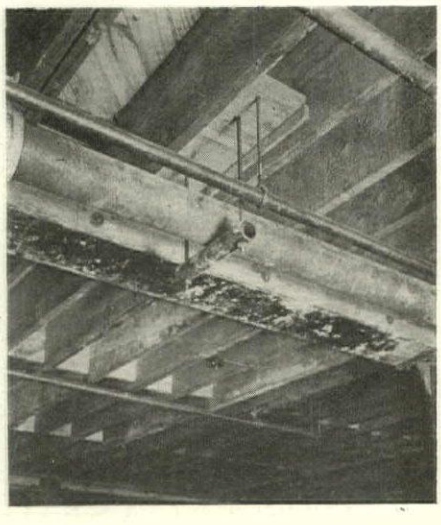
These cleats should be made of short sections of 2″x4″, firmly nailed to the floor joists for they are the main support of the system. Across these 2″x4″s

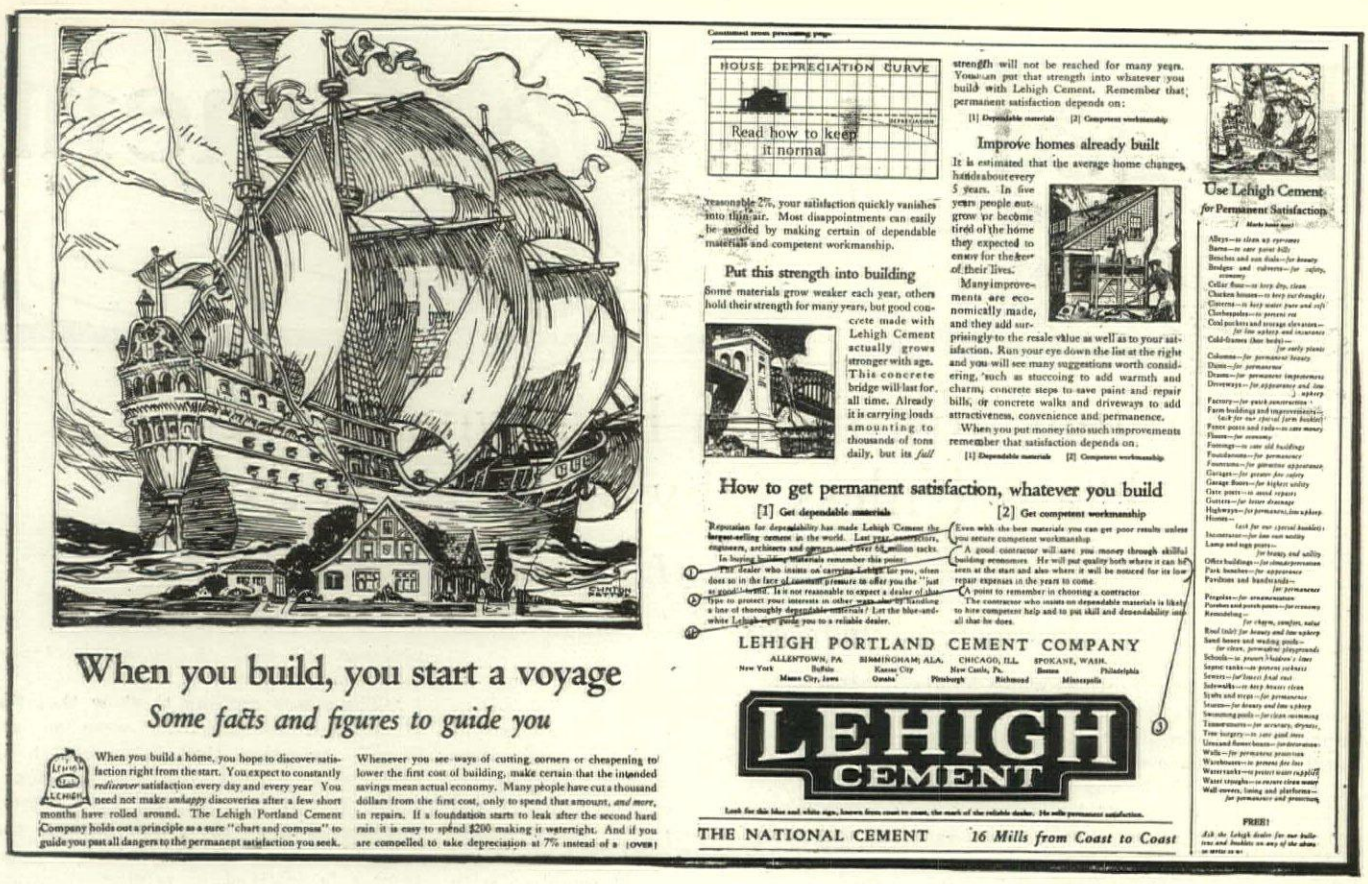


(D) short sections of joists should be set to form a shelf.

These pieces need not be nailed to the cleats but it is well to tack them with at least one nail so that they will not be liable to shift. They must fit tightly between the joists so that they take a firm bearing on the cleats. This shelf (C) should be bored to take the steel rods (H) which carry the pipe (E).

The pipe which is supported (G) is held in the saddle formed by the pipe (E) and the two rods (H). In order to prevent the rods (H) from being pulled through the shelf (C) a large sized washer should be used as illustrated. If the pipe saddle (E) is not truly level it may be made so by tightening or loosening the nut (F).





When you build, you start a voyage

Some facts and figures to guide you

When you build a home, you hope to discover satisfaction right from the start. You expect to constantly *rediscover* satisfaction every day and every year. You need not make *unhappy* discoveries after a few short months have rolled around. The Lehigh Portland Cement Company holds out a principle as a sure "chart and compass" to guide you past all dangers to the permanent satisfaction you seek.

Whenever you see ways of cutting corners or cheapening to lower the first cost of building, make certain that the intended savings mean actual economy. Many people have cut a thousand dollars from the first cost, only to spend that amount, *and more*, in repairs. If a foundation starts to leak after the second hard rain it is easy to spend $200 making it waterright. And if you are compelled to take depreciation at 7% instead of a reasonable 2%, your satisfaction quickly vanishes into thin air. Most disappointments can easily be avoided by making certain of dependable materials and competent workmanship.

HOUSE DEPRECIATION CURVE

Read how to keep it normal

Put this strength into building

Some materials grow weaker each year, others hold their strength for many years, but good concrete made with Lehigh Cement actually grows stronger with age. This concrete bridge will last for all time. Already it is carrying loads amounting to thousands of tons daily, but its *full* strength will not be reached for many years. You can put that strength into whatever you build with Lehigh Cement. Remember that permanent satisfaction depends on:

[1] Dependable materials [2] Competent workmanship

Improve homes already built

It is estimated that the average home changes hands about every 5 years. In five years people outgrow or become tired of the home they expected to enjoy for the rest of their lives.

Many improvements are economically made, and they add surprisingly to the resale value as well as to your satisfaction. Run your eye down the list at the right and you will see many suggestions worth considering, such as stuccoing to add warmth and charm; concrete steps to save paint and repair bills; or concrete walks and driveways to add attractiveness, convenience and permanence.

When you put money into such improvements remember that satisfaction depends on:

[1] Dependable materials [2] Competent workmanship

How to get permanent satisfaction, whatever you build

[1] Get dependable materials

Reputation for dependability has made Lehigh Cement the largest-selling cement in the world. Last year owners, engineers, architects and farmers used 54 million sacks. In buying building materials remember this point:

The dealer who insists on carrying Lehigh for you, often does so in the face of constant pressure to offer you the "just as good" brand. Is it not reasonable to expect a dealer of this type to protect your interests in other ways also by handling a line of thoroughly dependable materials? Let the blue-and-white Lehigh sign guide you to a reliable dealer.

[2] Get competent workmanship

Even with the best materials you can get poor results unless you secure competent workmanship.

A good contractor will save you money through skillful building economies. He will put quality both where it can be seen at the start and also where it will be noticed for its low repair expenses in the years to come.

A point to remember in choosing a contractor

The contractor who insists on dependable materials is likely to hire competent help and to put skill and dependability into all that he does.

LEHIGH PORTLAND CEMENT COMPANY

ALLENTOWN, PA. New York Buffalo — BIRMINGHAM, ALA. Kansas City Omaha — CHICAGO, ILL. New Castle, Pa. Pittsburgh — SPOKANE, WASH. Boston Richmond Philadelphia Minneapolis

LEHIGH CEMENT

Look for this blue and white sign, known from coast to coast, the mark of the reliable dealer. He sells permanent satisfaction.

THE NATIONAL CEMENT — *16 Mills from Coast to Coast*

Use Lehigh Cement *for* Permanent Satisfaction

Alleys—*to clean up eyesores*
Barns—*to save paint bills*
Benches and seat slabs—*for beauty*
Bridges and culverts—*for safety, economy*
Cellar floor—*to keep dry, clean*
Chicken houses—*to keep out draughts*
Cisterns—*to keep water pure and soft*
Clothespoles—*to prevent rot*
Coal pockets and storage elevators—*for low upkeep and insurance*
Cold-frames (hot beds)—*for early plants*
Columns—*for permanent beauty*
Dams—*for permanence*
Drains—*for permanent improvement*
Driveways—*for appearance and low upkeep*
Factory—*for quick construction*
Farm buildings and improvements—look for our *special farm booklet*
Fence posts and rails—*to save money*
Floors—*for economy*
Footings—*to save old buildings*
Foundations—*for permanence*
Fountains—*for genuine appearance*
Garages—*for greater fire safety*
Garage floors—*for higher utility*
Gate posts—*to avoid repairs*
Gutters—*for better drainage*
Highways—*for permanent, low upkeep*
Homes—look for our *special booklets*
Incinerator—*for low cost utility*
Lamp and sign posts—*for beauty, and utility*
Office buildings—*for attractiveness*
Park benches—*for appearance*
Pavilions and bandstands—*for permanence*
Pergolas—*for ornamentation*
Porches and porch posts—*for economy*
Remodeling—*for cheap, comfort, value*
Roof slabs—*for beauty and low upkeep*
Sand boxes and wading pools—*for clean, permanent playgrounds*
Schools—*to prevent blackout lines*
Septic tanks—*to prevent rotbreak*
Sewers—*for insect-proof rest*
Sidewalks—*to keep houses clean*
Steps and steps—*for permanence*
Stucco—*for beauty and low upkeep*
Swimming pools—*for clean swimming*
Tennis courts—*for accuracy, dryness*
Tree surgery—*to save good trees*
Unsound farm houses—*for alterations*
Walls—*for permanent protection*
Warehouses—*to prevent fire loss*
Watertanks—*to protect water supply*
Water troughs—*to ensure clean water*
Wall covers, lining and platforms—*for permanence and protection*

FREE!

Ask the Lehigh dealer for our bulletins and booklets on any of the above or write us

How *you* are being advertised to the public

THE Lehigh Portland Cement Company has a brand new service for contractors. In a tremendous advertising campaign, it is advising millions of people to employ the services of competent contractors. This will develop business for you if you will co-operate.

Lehigh advertising says:

(1) "Even with the best of materials you can get poor results unless you secure *competent workmanship.*"

It says

(2) "Go to a good contractor. He will save you money."

It says

(3) "A good contractor will put quality both where it will be seen at the start and where it will be noticed for its wearing qualities in the years to come."

It says

(4) "A point to remember in choosing a contractor: The contractor who insists on dependable materials is likely to hire competent help and to put skill and dependability into all that he does."

Cash in on this. *Two things to do:*

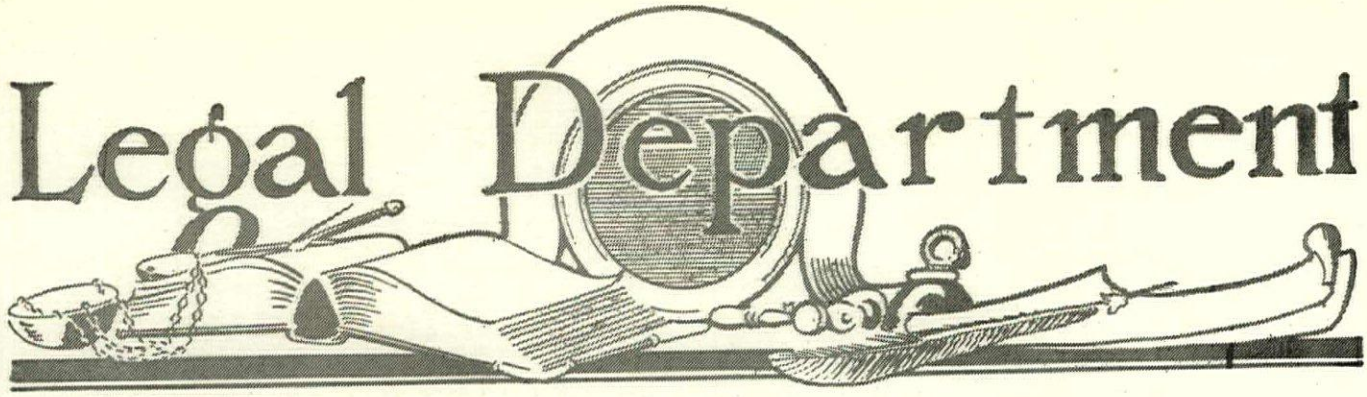
(1) Write for an outline of how we help you locally develop your reputation for using (1) Dependable Materials and (2) Competent Workmanship.

(2) Use Lehigh Cement and Lehigh job signs to indicate to your community the high quality of your work.

LEHIGH CEMENT

LEHIGH PORTLAND CEMENT COMPANY

ALLENTOWN, PA. BIRMINGHAM, ALA. CHICAGO, ILL. SPOKANE, WASH



Builder Justified in Following Contract Plans Unless Obviously Defective

By Arthur L. H. Street

"A BUILDER or contractor is justified in relying upon the plans and specifications which he has contracted to follow, unless they are so apparently defective that a builder of ordinary prudence would be put upon notice that the work was dangerous and likely to cause injury," declared the New York Court of Appeals in the recent case of Ryan vs. Feeney & Sheehan Building Company, 145 Northeastern Reporter, 321.

One Ryan was killed through fall of a canopy constructed by defendant for the United States Government, and his administratrix unsuccessfully sued to recover damages. What the court decided in the case would have equal force upon a contract to construct a building for an individual or private corporation.

The defendant constructed a building and a canopy according to plans and specifications furnished it by the United States Government and its duly authorized architect. The defendant was a builder it was not an architect. The contract provided:

"Extent of the work. The contractor shall in the shortest possible time, furnish the labor, material, tools, machinery, equipment, facilities, and supplies, and do all things necessary for the construction and completion of the following work: Quartermaster Interior Storage Depot at South Schenectady, New York, in accordance with the drawings and specifications to be furnished by the contracting officer, and subject in every detail to his supervision, direction, and instruction.

"The contracting officer may, from time to time, by written instructions or drawings issued to the contractor, make changes in said drawings and specifications, issue additional instructions, require additional work, or direct the omission of work previously ordered, and the provisions of this contract shall apply to all such changes, modifications, and additions with the same effect as if they were embodied in the original drawings and specifications. The contractor shall comply with all such written instructions or drawings."

Disposing of the case, the Court of Appeals said:

"The architect and the government officers employed upon the work were the ones who knew or should have known about the strength of iron supports and braces and the proper angles at which they should be placed. It is conceded that the defendant fully complied with the plans and specifications as it was required to do. The canopy fell down because the supporting irons or braces did not have sufficient spread or were fastened at too low an angle with the base. How was an ordinary contractor or builder to know this? The matter was for the engineers and architects to determine and design. The builder's experience might have suggested that another construction would have been better, but it was not its judgment on these matters which was to be taken, and it was justified in relying upon the experience and skill of the architect and supervising engineer. . . .

"There was nothing to show that the plans and specifications were so obviously defective that a contractor of average skill and ordinary prudence would not have attempted the construction according to the plans. This is the rule to be applied. A builder or contractor is justified in relying upon the plans and specifications which he has contracted to follow, unless they are so apparently defective that an ordinary builder of ordinary prudence would be put upon notice that the work was dangerous and likely to cause injury. Such was not the case here.

"In Hardie v. Boland, 205 N. Y. 336, 98 N. E. 661, the plaintiff's intestate while standing upon a scaffold was killed by being thrown from the scaffold by the collapse of a chimney. The contractor was erecting the chimney in accordance with plans made by architects who were employed by the owners. The court said:

" 'The fall of the chimney in these circumstances may be prima facie evidence of the negligence of the architects, but it cannot support a charge of negligence against the defendant, unless supplemented by proof showing that the plan was so obviously defective that a contractor of average skill and ordinary prudence would not have attempted the construction according to the plan.' Page 339 (98 N. E. 663).

"A charge [instruction to the jury] reading as follows was held correct:

" 'The contractor is presumed to know his business. But unless the defect was such a defect as he ought to have realized and known about it, which he ought to have anticipated and thus have avoided the injury, then there is no negligence even though the chimney fell.' Page 341 (98 N. E. 663).

"Owing to a strain on the supporting rods some timbers 'kicked out,' but Major Smith, who was in charge of the construction for the government, and a

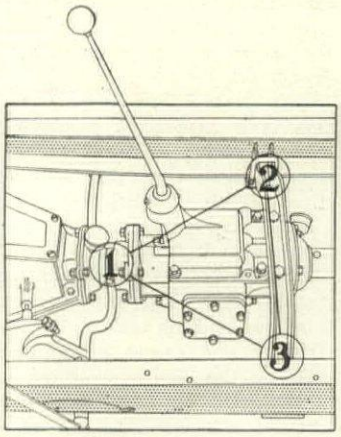
BUILDERS are frequently faced with vexing problems of a legal nature, problems arising during the execution of work and demanding prompt solution. Many an avoidable lawsuit has arisen from a misconception of legal aspects of problems. These pages are devoted to the clearing up of such difficulties, and problems of importance regularly find their solution here. This service is free to subscribers. Inquiries will be promptly answered personally, and if the cases are published, your name will not be revealed. Submit your problem to this department of BUILDING AGE AND NATIONAL BUILDER, *239 West 39th Street, New York.*

A Matter of Principle

Design, in all probability, has had as much to do with Ford success as price. For no car, however low in price, could establish leadership on anything less than superior performance.

The foundation of this Ford superiority lies in its three point suspension principle carried out completely in engine suspension, spring suspension and chassis bracing.

This same three point suspension is one of the features that makes the Warford ideal equipment for the Ford truck.



The Warford Heavy Duty is mounted in a universal joint forward; the weight of the unit and torsional strains of power take-off operation are absorbed by the sturdy cross-member which also reinforces the Ford frame.

Warford is built to operate a large size S. A. E. standard power take-off device with the truck moving or standing still.

Warford
AUXILIARY TRANSMISSION

The Warford Corporation · **44 Whitehall Street, New York City**

Neither the Warford Corporation nor its manufacturers has any connection whatsoever with any company manufacturing motor cars.

Atlanta-Houdaille Co., - Atlanta, Ga.
C. G. Spring & Bumper Co. New York City
Dealers' Warford Co. - Memphis, Tenn.
George Dietrich - - Spokane, Wash.
Dine-DeWees Co. - Canton, Ohio
Dyke Motor Supply Co. Pittsburgh, Pa.
Foster-Warford Co. - Auburn, N. Y.
Hall-Warford Co. - Charlotte, N. C.
Hammel-Gerke Co. - Los Angeles, Cal.
Kenney Equipment Co., Indianapolis, Ind.
H. N. Knight Supply Co. Oklahoma City, Okla.
Houdaille-Polk Co. - Dallas, Texas
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Price Auto Service Co. - Wichita, Kan.
Sieg Company - - Davenport, Iowa
Transmission Sales Co., Stockbridge, Mich.
Wade and Dunton Motors Inc. Lewiston, Me.
Sieg-Warford Co. - Chicago, Ill.
Warford-Eastern Co., Philadelphia, Pa.
Warford-Equipment Co., Seattle, Wash.
Warford-Pacific Co., San Francisco, Cal.
Warford-Sales Co. of S. Carolina Columbia, S. C.
Warford-Western Co., Kansas City, Mo.
Wholesale Auto Supply House Tampa, Fla.
Woodward Sales Co. - Portland, Ore.

The Warford Corporation of Canada, Limited, Windsor, Toronto, Montreal, Regina, Vancouver

Mr. Grimm, the government's supervising engineer, decided to put tie straps on. The defendant made these changes or additions as it was obliged to do by its contract. The defendant's work was finished and accepted by the government in January, 1919. The fall of the canopy, which killed plaintiff's intestate, occurred March 29, 1919. At the time there had been a heavy fall of snow which drifted back on the canopy three feet high in places.

"Under these circumstances, the case is lacking of any evidence that a contractor using ordinary care could or should have known that the government and its officers were ordering him to construct a dangerous and unsafe canopy. The fact that after the accident experts on examining the plans found the supports improper and insufficient was not enough to hold the defendant liable. The defects, if any, should have been so glaring and out of the ordinary as to bring home to the contractor that it was doing something which would be likely to cause injury. In this case it was justified in relying on the architect and the government engineers for the strength and angles of the braces of supporting rods. This rule of liability has been applied in other cases."

An Object Lesson for Material Buyers

IN the case of Segelke & Kohlhaus Manufacturing Company vs. Johnson, 199 Northwestern Reporter, 474, decided by the South Dakota Supreme Court, it appeared that defendant had a contract to erect a church building. The plans and specifications were submitted to a representative of plaintiff, a manufacturer and dealer in building materials.

This representative made an estimate of the price at which certain portions of the materials would be furnished. A separate notation was made as to what art glass, syenite glass, and ventilators would cost, a total of $1,297.13. Defendant sent his order to cover a certain described estimate, which did not include the items just referred to. Later he claimed that those items were to be included, but his claim was disallowed by the Supreme Court, which said, in part:

"We fail to see why there should be any dispute over what was to be included in the contract for $4,185. When plaintiff furnished defendant with the detailed statement of the items to be included in the order, which was received and retained by defendant without objection, this superseded all previous negotiations, and became the contract. But this is not all. On May 26, 23 days after defendant signed the order, Mr. Haller [plaintiff's salesman] wrote defendant relative to the transactions, saying:

" 'Regarding the art glass on this job, we would like very much to get the order for this in connection with the other millwork, so kindly send us designs for same so that we may submit a quotation.'

"Now this letter, if honestly written, shows conclusively that Haller did not intend or understand that the art glass had been included in the order. It was notice of that fact to defendant, and, if defendant had honestly believed at that time that the art glass was included in his order, the only natural or reasonable thing for him to have done was to have written back and said that the art glass was included in the $4,185 order. This was before any of the material had been shipped by plaintiff, and if there was any uncertainty or misunderstanding as to the meaning of the contract it could have been adjusted before expense had been incurred."

Payments Due During Progress of Work

"I WOULD like to know how I can be protected in building, say, a $10,000 house for one who has only about $2,000 cash and expects to get $8,000 on a bank loan," writes a Massachusetts builder. "How can I be protected so as to get my payments as the house progresses?"

The most common means of doing this appears to either have the owner give an order on the bank before work is commenced, providing for payment of the loan proceeds over to the builder as payments fall due, and have the order accepted by the bank, with a suitable memorandum binding the bank to comply or to have a three-party contract between the owner, bank and builder to the same effect.

In cases of this kind it is always advisable to have a good attorney nearby see that the papers are properly prepared, to guard against the possibility of the mortgage loan proceeds being diverted away from the builder's hands, leaving him, perhaps, with a lien subordinate to the mortgage and an empty claim against an insolvent owner.

Building on Wrong Lot

WHERE, through one's own negligence, he builds on a lot to which he has not acquired title, and the owner of the lot does not know of the making of the improvement at the time, there is no right to compel the latter to convey the land on which the building is so constructed, and no right to a lien against the land. In reaching this conclusion in the case of Friel vs. Turk, 123 Atlantic Reporter, 610, the New Jersey Court of Chancery said:

"The case of McKelway v. Armour, 10 N. J. Eq. 115, 64 Am. Dec. 445, is cited as authority for the relief which complainants now seek. In that case a lien was enforced in favor of one who had innocently built a valuable house upon the lands of another because the lot owner had participated in the mistake by standing by and seeing the improvements made upon his property without objection, and, while it appeared that he did not realize that it was his property that was being improved, it was held that he had at least equal opportunity with complainant to know the boundary lines of his lot.

"In the McKelway Case there were present several important features that are absent from the instant one. In that case Armour had stood by and had seen the improvements being made upon his property.

"It is true, as counsel claims, that this is a case of a mistake producing great hardship to complainants, but it is equally true that this situation is the direct result of complainant's own inexcusable negligence and the evidence discloses that it is not such a mistake from the consequence of which equity can grant relief. The authorities are in accord in holding that—

" 'If one erects a building by mistake on the land of another, who knows nothing of it, and, of course, cannot acquiesce, he has no relief on the ground of his own mistake only.'

"Equity will not grant a man the relief now sought, whose condition is attributable solely to his failure to exercise that diligence which may be fully expected from a reasonable person."

Injury to Articles on Premises

UNDER a building contract, the owner reserved the plumbing, which was awarded to an independent contractor. The plumbing contractor so placed an uncrated bath tub in the building that the general contractor's employees found it necessary to move it, in order that plastering might be done. They rolled the tub, instead of sliding it. Later the tub was found to have been scarred, apparently through having been slid along the floor on a pebbly surface. We are asked whether or not the general contractor is liable.

Liability depends upon whether or not the tub was negligently handled by the general contractor's employees. The mere fact that it had to be moved cannot excuse injury to it. The general contractor had a right to move it, so that the plastering could be done. But he was bound to do it in a careful manner. If it be conceded that the tub was scarred in being moved by his employees, a presumption of negligence arises, and I believe liability becomes fixed, unless the general contractor can explain in some way how the tub happened to get scarred while being carefully moved.

If the general contractor was in exclusive control of the premises at the time, the fact of injury would seem to raise a presumption of negligence on his part.



Brighter Basements Are Easier to Sell

HOME buyers today are looking for bright basements. They want the extra light, air and general usefulness that Fenestra Basement Windows give. They know that a basement can be a workroom or playroom, as cheery, healthful and useful as the rooms upstairs.

At little or no extra cost, any builder can equip his houses with these sturdy, steel basement windows that everybody wants. It's a long step toward a quick sale.

Fenestra Basement Windows are easy to install in brick, hollow tile, concrete block, poured concrete or field stone. They come complete—sash and frame with hinges and lock attached. Dealers everywhere carry them in stock ready to deliver with your other foundation material. Four standard sizes: 2-light 14 x 20; 3-light 10 x 12; 3-light 12 x 18; 3-light 11 x 24.

We shall be glad to tell you more about Fenestra Basement Windows—how little they cost and how much they help in selling the houses you build.

Fenestra Casement Windows

Fenestra Casements in the first and second floor rooms provide strong selling advantages, also. Their narrow muntins and small glass lights give an old world charm—a cozy, bright, homelike appearance to both interior and exterior. Fenestra Casements are being used today without any extra cost. You can do the same.

Fenestra Utility Windows

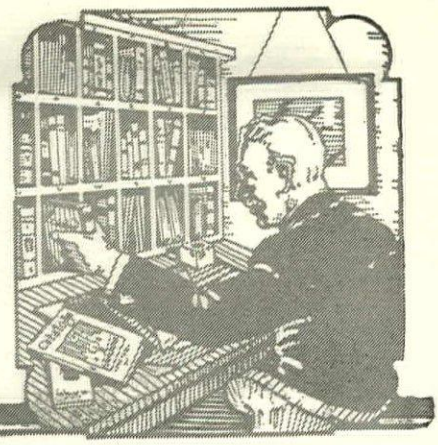
In garages equipped with Fenestra Utility Windows, it is not necessary for motorists to back a car into the drive whenever they want to "tinker" with it. These steel windows admit an abundance of light down low, where it is of real use. A large, easily opened ventilator that never gets in the way provides ready escape for deadly exhaust gases.

DETROIT STEEL PRODUCTS COMPANY
A-2252 E. Grand Boulevard Detroit, Mich.

Fenestra

for homes, large and small
shops and small factories
garages and service stations
stores and other buildings

USEFUL CATALOGS



Some Real Aids to Planning

OF all the phenomena that fill our world, human ingenuity is perhaps the one that most nearly exemplifies that long-sought form of activity called "perpetual motion."

The human mind is tireless; it works overtime and all the time; and the fruits of its activity are constantly ripening. New devices are produced everywhere, in countless forms and for a myriad of purposes. Existing devices are constantly being improved, and a thousand variants are put forth where a hundred existed before.

Thanks in good part to this fertility of production and adaptation, especially in our country, American building has reached an enviable plane, so that today it easily leads the world.

The modern builder shares this quality of mind that produces improvement after improvement. He is interested in all that is going forward; he wants to examine and apply to his own needs every genuine time, labor, or money saving device and piece of equipment.

Such a builder keeps his finger on the pulse of progress largely by means of the catalogs and descriptive literature issued by the hundreds of great manufacturers throughout the country. The catalog tells him what he wants to know just when he wants to know it, and with a minimum of fuss and detail. Its illustrations, descriptions and diagrams tell him at a glance what any particular product looks like and how it operates. The price list permits him to figure cost data without preliminary correspondence.

Modern needs imperatively demand modern methods, and the catalog is a recognized short-cut to efficient working methods. In these pages will be found a thumbnail description of the latest aids to planning. It aims to be a compendium of useful information and a record of what is going forward in the building and allied manufacturing fields.

Your client will be interested in the devices and equipment described in these catalogs. Send for the catalogs now if you wish to have a complete list available whenever needed. Mail your request direct to the manufacturer or to this department of BUILDING AGE AND NATIONAL BUILDER and we will have the particular catalogs mailed direct to you.

Asbestos Shingles multiply the life of a roof, besides adding to its attractiveness. Shingles of asbestos reinforced with Portland cement are made in various sizes and colors by the American Insulation Co., Roberts Ave. and Stokley St., Philadelphia. Builders will be interested in a descriptive booklet put forth by this company.

Combination Doors quickly and easily convertible from screen doors to storm doors and vice versa, are thrice useful, especially in fickle climates and seasons. The change is readily accomplished, according to information submitted by the Combination Door Co., Fond du Lac, Wis.

Construction Machinery of every description, including concrete mixers, concrete block machines, pumps, hoists, etc., is described at length in a catalog issued by the Construction Machinery Co., 83 Vinton St., Waterloo, Ia.

Built-in Conveniences make the home doubly attractive and livable. Kitchen cabinets, closets, etc., assembled in units and ready for installation, and trim and mouldings of all varieties, are described in literature issued by the Curtis Companies Service Bureau, Clinton, Iowa.

Building Instruction by mail, including practical lessons in plan reading, estimating, superintending and building construction, is afforded by the lessons of the Chicago Technical College, 118 E. 26th St., Chicago. Literature and a sample lesson will be mailed upon request.

Metal Lath is one of the notable features of fire resisting construction. Incombustible plaster over this type of lath makes a wall calculated to resist the fiercest flames. Specification booklets of the North Western Expanded Metal Co., 1204 Old Colony Bldg., Chicago, contain descriptions of metal lath for all uses.

Wood Carvings that lose nothing alongside expensive hand carvings are practical and economical to use. Carvings for fashioning capitals, scrolls, pilaster capitals and period work are described in detail in a new catalog, No. 9, of the Ornamental Products Co., 750 Fourteenth Ave., Detroit, Mich.

Doors of distinctive design and cabinet shop construction are illustrated in a catalog of the Paine Lumber Co., Oshkosh, Wis. The doors are made in both hard and soft woods.

Radiators and Heating Outfits are vital points in every type of building. Those of approved type help materially in house-selling campaigns. The role of hot water heating systems in augmenting business for the contractor is told in literature of the American Radiator Co., Dept. T 199, 1803 Elmwood Ave., Buffalo, N. Y.

Door Hardware of dignity, substance and character is a bigger asset than might be imagined in selling a house. These are the details that the prospective buyer is the first to note, and first impressions are often all-important. Builders will find useful hints regarding the selection of hardware in a booklet issued by Sargent & Co., 53 Water St., New Haven, Conn.

Floor Surfacing Machinery operated by electricity is doubly valuable in the work it accomplishes and the saving in labor and time represented by its use. A catalog issued by M. L. Schlueter, 223 W. Illinois St., Chicago, describes an improved machine which requires no experienced operator and will surface right up to the quarter round without use of an edge roller.

FAIRBANKS-MORSE HOME WATER PLANTS








No home need be without water under pressure

Water under pressure should have a prominent place in the specifications for every new home and for the remodeling of old homes. It is one of the greatest of all modern conveniences. It is an invaluable aid to health and sanitation.

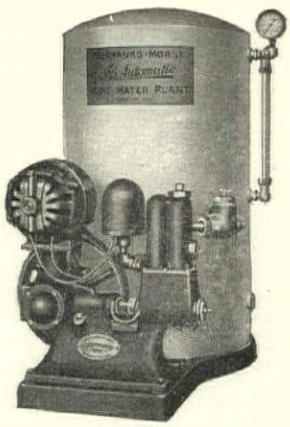
Even though the home is beyond city water mains, water under pressure is easily available at an exceedingly low cost for bathroom, kitchen, laundry, garage, barn, watering trough—*any place.*

Fairbanks-Morse Home Water Plants are a source of greater health and happiness. They are made in a variety of sizes to meet all requirements. There is a plant for drawing water from any source. Furnished in both electric and engine drive. Electric plants are automatic in operation—self-starting—self-priming—self-oiling.

The name Fairbanks-Morse is your guaranty of highest quality. Leadership has been attained by reason of absolutely dependable service year after year. An extensive advertising campaign in national publications is strengthening that leadership.

Let us send you our latest literature which covers thoroughly the subject of water under pressure for home and farm. These booklets are of special interest to builders and architects.

It's Automatic



200-gal. per hour plant

PRICES

120 gallons per hour capacity pump, 60 cycle motor, 8 gallon galvanized tank, complete, $84.75 list

200 gallons per hour capacity pump, 60 cycle motor, 35 gallon galvanized tank, complete, $115.00 list

Prices, cash f.o.b. factory

Also larger sizes, for engine or electric drive, correspondingly low priced

FAIRBANKS, MORSE & CO.

Manufacturers **Chicago, U. S. A.**

Fairbanks-Morse Products ***"Every Line a Leader"***

PIN THIS TO YOUR LETTERHEAD

Fairbanks, Morse & Co., Dept. N-2, 900 S. Wabash Ave., Chicago.
Send latest literature and complete information regarding Fairbanks-Morse Home Water Plants and dealer plan.

Name .....
Address .....
City ..... State .....

Some More Useful Catalogs

Concrete Mixers of advanced design and construction are illustrated and detailed in a catalog of the Stewart Mfg. Co. 366 Rath St., Waterloo, Iowa. Literature will be sent upon request.

Roofing Tile makes roofs as handsome as they are enduring. Particulars of roofing tile of rough and smooth texture may be had by addressing the B. Mifflin Hood Brick Co., Tile Dept., Daisy, Tenn.

Structural Slate is uniquely adapted for use in floors, shower stalls, toilet enclosures, urinal stalls, tubs and sinks. Information regarding this enduring material is contained in literature of the Structural Slate Co., 120 Robinson Ave., Pen Argyl, Pa.

Wall Ties, wall plugs, base and corner bead are details of construction where quality is especially important. Literature of the Sykes Metal Lath Co., Niles, Ohio, gives copious information regarding many varieties of building specialties including dome dampers, ash dumps, thimbles, steel coal chute doors and ash pit doors.

A Plan Book containing over 300 illustrations of homes ranging in cost from $5,000 to $20,000 will interest builders and home owners alike. A description of such a book is contained in literature issued by Robert L. Stevenson, 521 Paddock Building, Boston, Mass.

Water Softeners should eliminate the insanitary cistern from the home by providing a constant supply of clean, fresh water, and should do away with hard water scale, so saving coal, plumbing and water heaters. A rapid-rate water softener of tested quality is illustrated in literature of the Wayne Tank and Pump Co., 805 Canal St., Fort Wayne, Ind.

Store Fronts that make the most of display space, and that can be set without interruption or breakage expense, will appeal to the builder and merchant alike. A patented, indirect, key-set construction, with rigid gutter, is described and lavishly illustrated in a book, "Getting People In," issued by the Zouri Drawn Metals Co., 1608 East End Ave., Chicago Heights, Ill.

Low Charging Mixers are economical both of men and materials. A concrete mixer in which the drum opening is almost as wide as the drum itself and which disposes very rapidly of material is detailed in a catalog of the B. M. Cropp Co., 2346 W. Kinzie St., Chicago, Ill.

A Coal Chute the frame and bottom of which are pressed out of one piece of heavy "copper steel" is a modern improvement which protects the building from damage and defacement. A descriptive circular giving information about new, improved coal chutes of this type is issued by the Kewanee Mfg. Co., 600 Tremont St., Kewanee, Ill.

Metal Sheathing and Roofing Brackets are easily and quickly attached and thoroughly safe for supporting scaffolding on steep roofs. A folding bracket of this type is described in a catalog of the Ajax Bracket and Outlet Co., 1551 Rydal Mound Road, Cleveland Heights, Ohio.

Drawing Instruments and other incidental equipment needed for work in the up-to-date builder's shop and office are in constant use and must meet exacting demands. An illustrated booklet entitled "Be a Bigger Builder" lists and describes several types of instruments indispensable to the contractor. It is issued by the A. S. Aloe Co., 22 Olive St., St. Louis, Mo.

KEEP pace with the developments of the trade. These pages are a current record of the new catalogs. Used in conjunction with our Selected List of Manufacturers' Literature, they provide a fund of information that will aid you in your 1925 planning. Send for the catalogs, either to the manufacturer direct or to this department of BUILDING AGE AND NATIONAL BUILDER.

Canvas Roofing Fabric specially treated to resist dry-rot and mildew, and that is weatherproof, is particularly useful for balconies, flat roofs, roof gardens and sleeping porches. Such a material is described in detail in Booklet A of the Wm. L. Barrell Co., 50 Leonard St., New York City.

Movable Stairways are easily installed and are great space savers. Details regarding this product are given in literature of the Bessler Movable Stairway Co., 1902 East Market St., Akron, Ohio.

Plumbing and Heating Supplies, equipment and fittings reaching the impressive number of 10,000 devices are illustrated in a special catalog, "The Handy Man," issued by the Hardin-Lavin Co., 4538 Cottage Grove Ave., Chicago. The book is a veritable encyclopedia of its kind.

Electric Switches with radio outlet, bringing radio service to every room in a centrally-run building, form the novel feature of a new catalog, No. 2139, with Plate No. 2137, put forth by the Hart & Hegeman Mfg. Co., Hartford, Conn.

The Engine is the driving heart of every job where machine power is called for. Sturdy engines that combine power and durability pay rich service dividends. Engines for every type of job are listed by the Hercules Corporation, Evansville, Ind.

Opaque Glass is indicated wherever privacy is required. A tapestry glass that obscures vision and breaks up direct rays of light in a clear, brilliant flood is described in a recent catalog of the Pittsburgh Plate Glass Co., Pittsburgh, Pa. It is a booklet that every builder should have.

Screen Wire Stretchers are invaluable for window and door work. A convenient and rapid-operating device of this kind is described in a new illustrated catalog, No. 15, issued by the Markwell Mfg. Co., Inc., 176 Franklin St., New York. The same catalog lists a multitude of other time-saving devices, such as a clamping bench, automatic screen tackers, mitering machines, etc.

Weatherstrips of approved type and quality are economical and make for better all-round home satisfaction. These appliances, together with flyscreens and window shades, are products described in literature of the Victor Parting Bead Co., Reading, Pa.

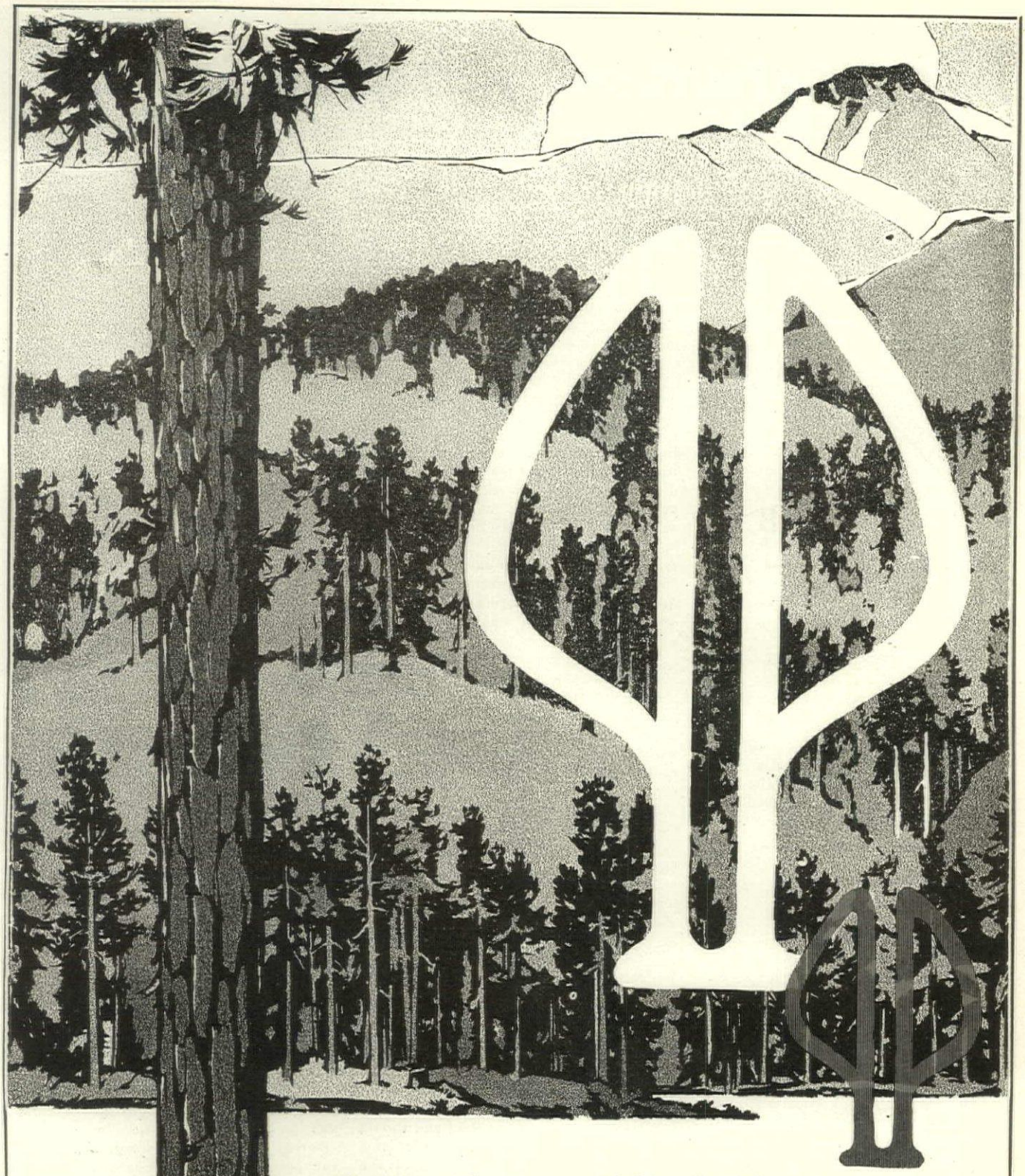
Water Service anywhere and for any purpose is an argument that speaks eloquently to the prospective home buyer. A service that takes water from any source and provides running water under pressure in any section, and which is equipped for any power, is detailed in literature of the Flint & Walling Mfg. Co., 41 Oak St., Kendallville, Ind. Builders will be interested in their book, "How to Have Running Water."

Hinges that combine durability and utility with beauty, and spring hinges designed to meet the hardest of service, form the subject of a new catalog, No. 47, issued by the Bommer Spring Hinge Co., Brooklyn, N. Y. It is available to builders upon request.

Sugar for Building use seems at first thought a rather fantastic idea, but that ingredient forms the basic part of a lumber substitute possessing rigidity, economy, and the insulation value of cork, besides being water-resistant and virtually indestructible. The makers, the Celotex Co., 645 N. Michigan Ave., Chicago, Ills., will send a plan book, "Your Home," which contains complete information regarding this material.

Stucco Construction calls for a strong, substantial base joined with a durable and attractive surface. An insulating base that is both fireproof and waterproofed, and a prepared stucco for application to it, are described in an illustrated booklet issued by the Bishopric Mfg. Co., 17 Este Ave., Cincinnati, Ohio.

Homes of California Style are becoming increasingly popular with clients. Books of plans giving many varieties of this style of architecture are described in literature of E. W. Stillwell & Co., 270 California Bldg., Los Angeles, Cal.



Pondosa Pine—an old friend with a new name

You've known this choice timber under the name of "Western White Pine." Its new name is "Pondosa Pine," derived from the botanical designation of this species—**pinus ponderosa.** Pondosa Pine, from the Inland Empire of the Great Northwest, is the finest lumber for all-round use. It is light, yet strong. Takes nails without splitting and holds the paint. Every trade-marked stick of this all-purpose lumber is rigidly **graded,** thoroughly **seasoned** and carefully **milled.** It's great wood to work with! For sale by all good lumber dealers. Write for the Pondosa story. Address Dept. 23, Western Pine Manufacturers Association of Portland, Oregon.

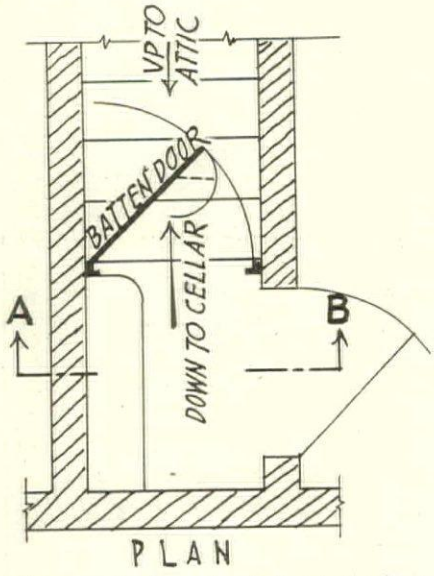
Pondosa Pine

The Pick o'the Pines

Kinks from the Job and Office

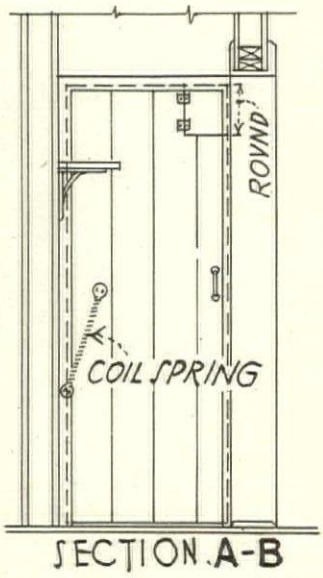
Cellar Door Device

WHERE the stairs to the attic or third story rise over the stairs to the cellar, a condition frequently arises where the landing at the top of the lower flight can be used as a closet provided



a door can be hung to shut out the dust. This door would have to open out over the stairs, and would ordinarily strike the soffit of the stairs to the attic.

To avoid this the door should be notched as shown in the drawing, and a



swing panel rounded out in the edge on both sides. When the door is opened this panel strikes the soffit of the attic stairs, but does not stick because of the rounded edge. As it opens in it allows the door to open all the way. The coil spring closes the door and when the panel strikes the door stop it closes back in place.—**P. A. Hall.**

A Roof Gutter

IN building a porch around a corner of his home, a Middle Western builder had difficulty in constructing a wood channel which was to be lined with tin to form the roof gutter. His attempt to bend a beveled bottom board (pitched to fit the shingle roof) to the circle of shingles by sawing across the board at half-inch intervals in the "head-of-a-coffin" method proved a failure.

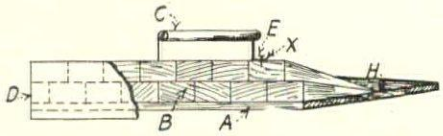
The sheathing had already been nailed down with a two-way pitch from the center of the roof. No provision had been made for keeping the water from flowing over the eave, when the idea of a water channel as shown at H. in the drawing was conceived. After twelve years of service in withstanding the sudden changes in this climate, it has no split or leaky seams, and the tin is sound from the fact that no sharp turns were formed as would be necessary in laying a deep gutter which would hold ice, soot and sediment, disastrous to the tin and seams.

In order to have a solid base for the tin and at the same time direct the water back from the eave, it was decided that two rows of shingles be laid, one upon the other with their butts flush with the eave edge. The flat seam tin roof was laid in the usual manner, except it was extended over the eave a sufficient distance to allow of its being malleted down over the butts of the shingles, sheeting board and secured by nailing into the latter. (A).

After the roof was laid, a beaded extension flash (C) was nailed over the tin to flush the eave. This extension is made by cutting the required number of strips 2½ to 3 inches wide, according to the height wanted for the flash. The mailing flange is formed at a right angle ½" wide; the bead will take ¾" more stock, hence if the strips are cut 2½" wide, the top of the extension will stand slightly more than 1¼" high, a good height for any ordinary sized porch.

The extension is nailed through the ½" flange E, back of the bead and should be nailed close; the outer edge of this flange is formed up (X) and over the nail heads, hammered smooth and tight forming a "blind nail" to be soldered over completing the flash or it may be smoothed over with the mixture used for leaks, etc., mentioned in previous numbers.

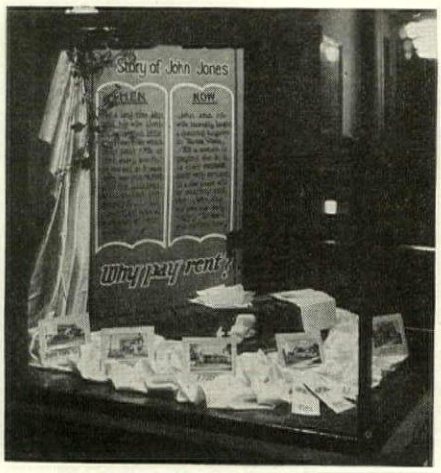
Laying the tin roof over the corner circle is merely a continuation of the main roof, with due observance that the tin projects over the edge of the circle at all points far enough to cover the shingle butts, the sheeting board edge and extend down on the pine shingles. The tin is then sheaved to a true circular sheathing and enlarged in radius to the outer width of the eave projection. It is then snipped back to the sheeting board in about half-inch cuts when it can be malleted down and nailed to the sheeting "A" as shown at "D," as readily as if a straight edge.



Building a neat circle with the flash extension is somewhat more difficult, yet it can be done nicely by snipping the nailing flange, and use a small three corner file to cut into the back of the bead at near one-inch intervals. Use care in bending the bead to the radius of the circle when nailing the flash and a presentable front will have been obtained.—**L. S. Bonbrake.**

A Merchandising Hint

THE photograph shown here illustrates a window display which has been used by a local real estate dealer and builder with remarkably effective



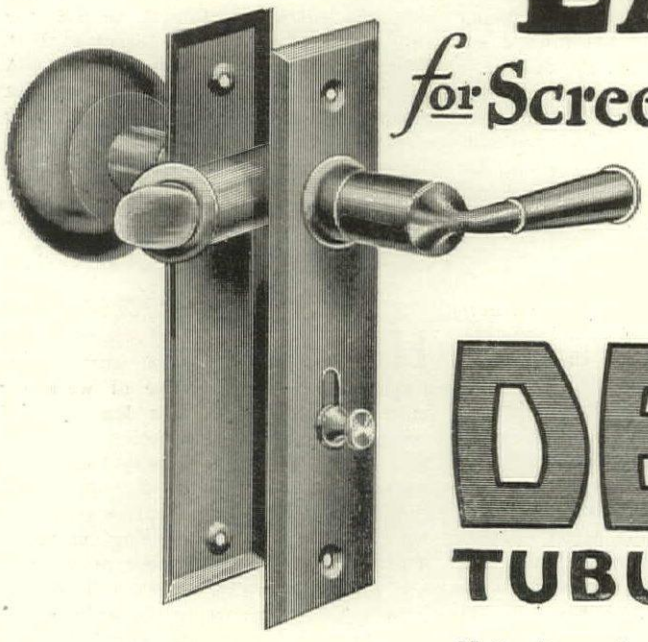
results. The foreground of the window is filled with photographs of cottages and bungalows that the builder has erected, together with literature which can be obtained inside the office.

As a background to this display is a large poster with the underline "Why Pay Rent?" Above is printed in large type, easily read through the window the story of John Jones, which is an interesting narrative of a couple before and after they owned their own home.

Here is an idea which builders may well utilize. Posters effectively laid out and attractively colored are magnets to the passerby. Variations on the above method will occur to the enterprising. Local conditions will often suggest particular lines of thought.—**B. C. Reber.**

NEW and BETTER LATCHES

for Screen Doors and French Doors



Study carefully the accompanying illustrations and you will discover that here is an item on which you can do a splendid volume of business.

DEXTER TUBULAR LATCHES

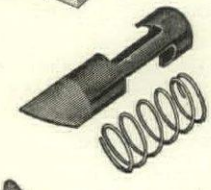
No. 1150. All exposed parts solid brass, beautifully finished. Installed by simply boring two holes. Various styles, sizes and finishes for all uses.

Note how these Latches meet the builder's every requirement. They're *good looking, soundly constructed, long lived,* and they incorporate the exclusive DEXTER Tubular design that makes possible neatest and speediest installation. *Simply bore two holes.* Slip Latch and handle into place and they fit, perfectly.

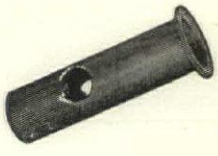
You will see for yourself that this superior Latch is positive in action and practically indestructible. This Latch, with its long positive bolt, has only three simple, substantial working parts.



Drop forged steel-spindle, practically everlasting.



Strong tempered steel spring assures positive quick action always.



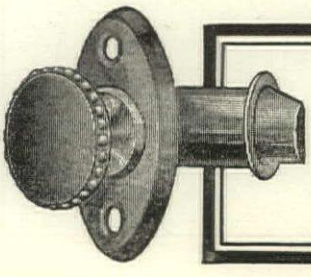
Seamless tubular brass case carries bolt and spring—a compact, trouble-free unit

These latches have been adopted by the largest screen door manufacturers in the United States for the season of 1925. Also by the largest show case manufacturers in the United States.

The business on DEXTER Latches is growing by leaps and bounds. Get your share. Use the coupon to send for descriptive literature.

National Brass Company

1603-11 Madison Ave., S. E.
Grand Rapids, Mich.



DEXTER Tubular Cupboard Turns

Just as handsome, efficient and durable as DEXTER Screen Door Latches. Wide range of styles, sizes and finishes. Coupon brings descriptive folder.

National Brass Co.
1603-11
Madison Ave., S. E.
Grand Rapids, Mich.

Gentlemen: Send us by return mail descriptive literature illustrating DEXTER Latches for Screen Doors and French Doors; also folder on Cupboard Turns.

Name .....

St. Address .....

City ..... *State* .....

Kinks from the Job and Office

Screen Hanger

THE illustration on this page shows an original screen hanger, which is both simple to make and serviceable for many seasons.

Fig. 1 shows a side view of the hanger, while the front view is shown in Fig. 2. It can be made from a nail and a staple.

The upper part, or hook, is made from a 10 penny nail, with the head sawed off. The lower portion, or eye, is a staple of extra long make.

To put up the screen, first lay the frame on a flat piece of iron for a solid foundation. Drive the staple into the wood at a slight angle. When the points of the staple come out on the other side, they will be clinched into the wood as they strike the iron. When this is done, bend the loop of the staple inward so that it will be in line with the frame.

Set the frame in place in the window and drive the sawed-off nail through the loop into the woodwork, allowing about three-quarters of an inch of the nail to project. Bend the projecting nail to form a hook.—**H. Segele.**

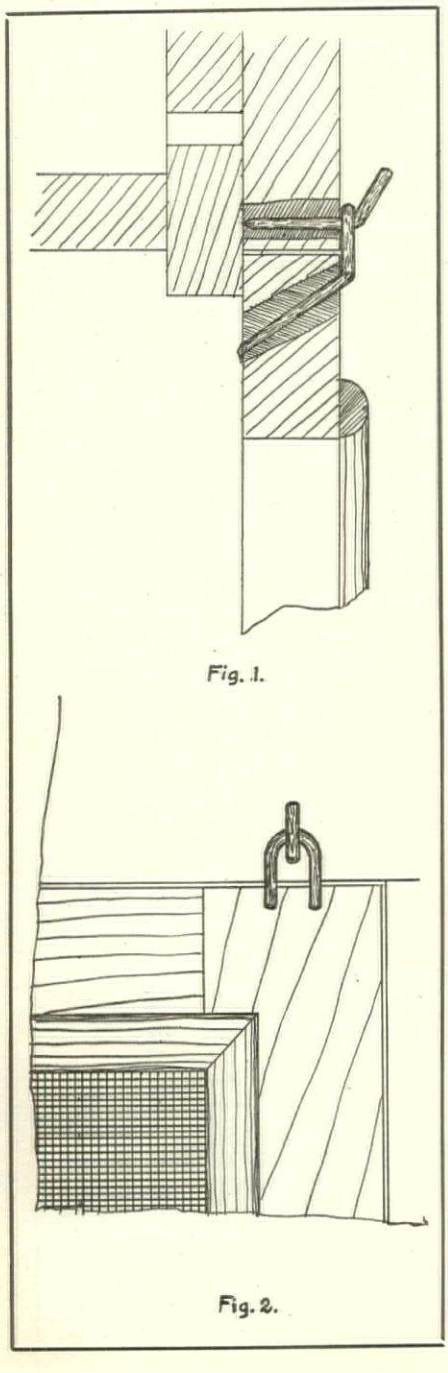


Fig. 1.

Fig. 2.

A Basement Hotbed

ONE can easily construct a small hotbed in one end of the basement that will greatly facilitate the growing of hardy, early plants.

Construct a concrete wall four inches thick and three feet high beginning at one wall, three or four feet from the south wall, and extend it as far as your purpose requires. The forms for the wall can be erected from scrap lumber. Wires may be run through the sides and twisted together in the empty form to maintain the proper thickness. Cleats can also be nailed across the top. A short length of pipe should be placed through the wall at the lowest point to drain off surplus water.

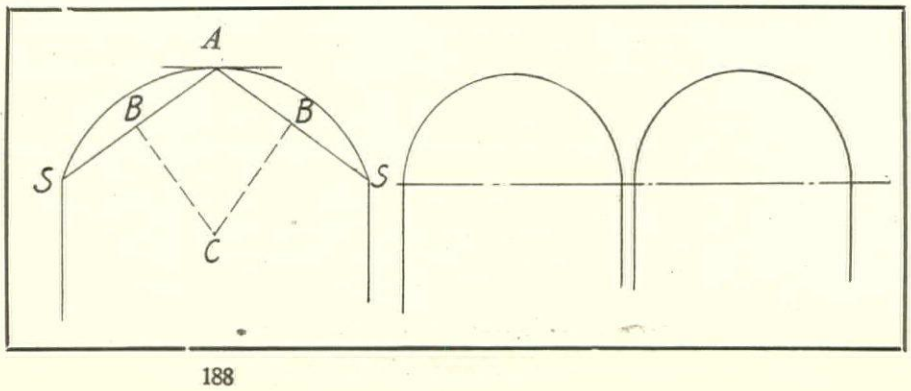
Reinforcing should be imbedded in the concrete, especially at the corner. To prevent the wall from slipping where it meets the basement wall, the old concrete might be chipped away.

When the concrete has hardened and the forms are removed, the interior is filled with soil, and the top or seed bed prepared in the usual manner. If the natural light available is insufficient, then one or two electric lights can be attached to the joists overhead.—**Dale R. Van Horn.**

Arches to Match

THE problem often arises in alterations of interiors that an arched entrance is desired at the same height as an arched window already constructed, and with the spring lines of both to be at the same level. Figure 1 represents a double arched window in a room, and Figure 2 is an entrance which is to be arched so as to be in symmetry with the other opening.

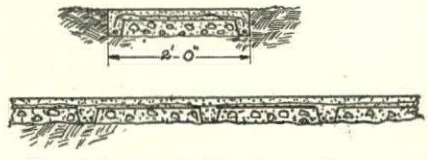
Locate point A over the center of the proposed entrance. Join A to S-S, the full width of the span. Bisect at B-B. Square down to C for center, and C-A will be the radius and S-A-S the segment of the true circle. In the same manner a center and radius may be found to draw a circle through three points not in a straight line.—**A. N. Phillips.**



Economy in Cement Walks

HERE is a pattern of cement sidewalk that I call beam-construction. Experience with this type of walk for more than four years has demonstrated its durability. A cross-section of a two-inch slab is shown in Figure 1; a longitudinal section in Figure 2.

The irregular lines indicate woven wire fencing used as reinforcing material. The heavy dots show where pencil rods are placed laterally. Each slab constitutes a beam supporting the walk, which is made of cinders or ashes carefully filled into the spaces and on the surface. The spacing of the slabs should be at intervals of two to four feet.



The following table shows the amount of material used in building four walks of varying thickness, with each section measuring 2 x 4 feet:

Thickness of slab	Sand and gravel	Cement
2 inches	16 shovels	4 shovels
1½ "	14 "	3½ "
1 "	12 "	3 "
¾ "	10 "	2½ "

A shovel ordinarily used for handling gravel was used. Although these four sections have been subject to regular usage for more than three years, they have never been in need of repair.—**H. H.**

PENNSYLVANIA
PORTLAND CEMENT

YOU can't buy better cement than Pennsylvania. Every bag exceeds the U. S. Government standard requirements. Starting with the best quality of rock, through every step of manufacture the cement we produce must always be worthy to bear the Pennsylvania brand.

We thoroughly test the fused clinker from which cement is made, 30 days or more before any cement is ground for shipment. A miniature grinding mill installed in our laboratories duplicates actual process of manufacture. This makes it possible to know that the quality of Pennsylvania Cement is certain *every* time. Nothing is left to chance.

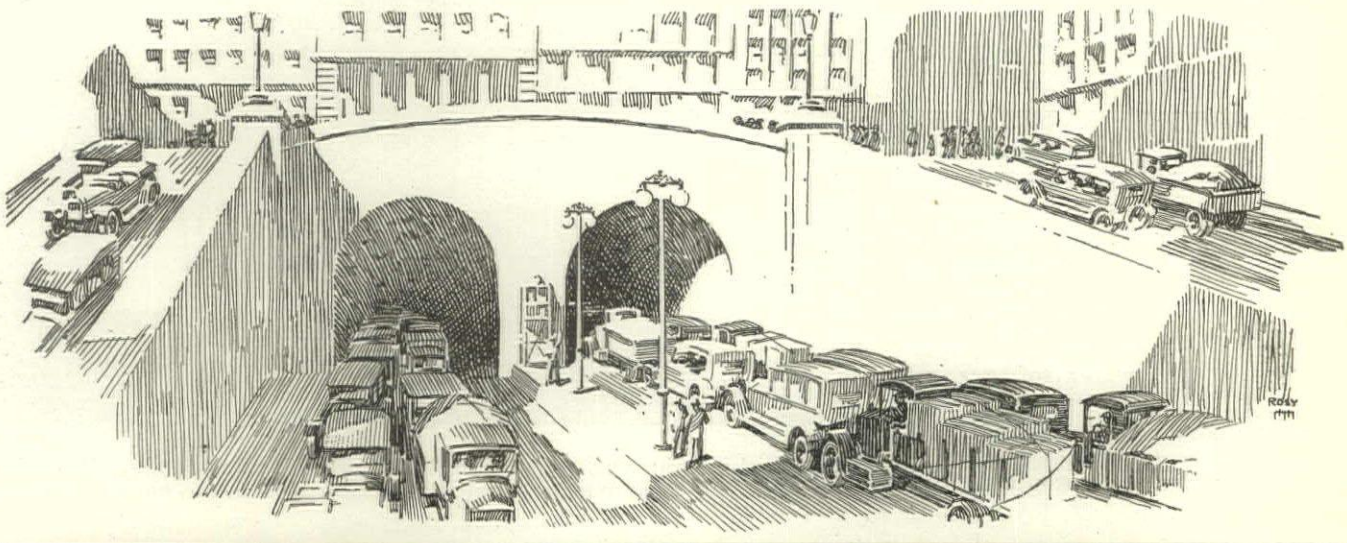
This reputation for quality has been the determining factor for the selection of Pennsylvania Cement in such important work as the New York and Brooklyn Subways, the Polo Grounds, the Catskill Aqueduct, Hell Gate Bridge and the Equitable Building Foundations.

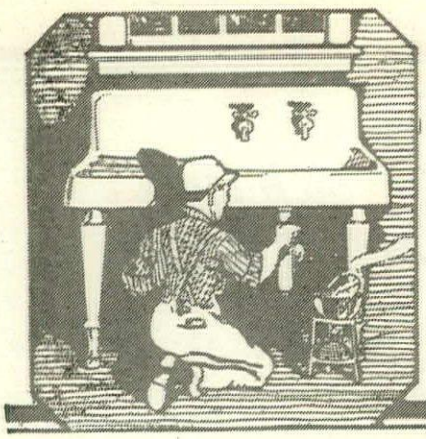
We shall be glad to send you "Pennsylvania Concrete Manual," a booklet of interest to all cement users. Address our New York Office, Pennsylvania Cement Company, 131 East 46th Street, Dept. A-1, New York City.

PENNSYLVANIA CEMENT COMPANY

Offices: New York Philadelphia Boston Buffalo
Plants: Bath, Pennsylvania Portland Point, N. Y.

PENNSYLVANIA CEMENT is used in the approach of the Vehicular Tunnels which, when completed, will provide a direct route for motorists between New York City and New Jersey





PLUMBING

Modern Methods and Equipment

Hygiene and Economy Via Water Softeners

IT is a fact, little suspected by the layman but nonetheless lamentably true, that the use and effects of hard water mean a waste of thousands of dollars throughout the country.

Hard water has a variety of drawbacks, among which one of the most prominent is the formation of scale deposit in pipes and tubes. But before touching on this factor, let us consider briefly what hard water is.

Water, as it passes through or over the earth, absorbs certain mineral elements, among them lime and magnesium. These give to water certain unpleasant characteristics, such as rendering it difficult to work up soap lather. Scale deposit is the result of lime and magnesium incrustation. The latter not only attacks kettles and pans and closes up pipes, but has the effect of insulating against heat, thus wasting fuel.

It is being generally realized that hard water means annnoyance and unnecessary expense.

Cistern water, while it is rain water, is not soft, and it is invariably dirty and often contaminated. Many cities, recognizing the danger to health of cisterns, have legislated against their use.

The common-sense cure for hard water troubles is the modern, improved type of water softener. This is a filter-like device which connects to the city water supply line softening city water as it flows through under regular city pressure. The water is automatically softened and perfectly meets all household requirements. Water softeners obviate the need of the insanitary cistern.

The modern water softener consists of a heavy steel container tested under high hydrostatic pressure. In the top an inlet water diffuser and funnel are attached. The raw water enters through the funnel and passes through a bed of mineral which retains the hardening elements.

This mineral is not a chemical but a sand-like substance containing the element sodium which it has the property of exchanging for the hardening elements calcium and magnesium. Hard water filters through this mineral and emerges clear and soft at virtually the same pressure.

Modern water softeners are both healthful and economical. They are a complete unit, occupy a minimum of basement space and are easily installed by a plumber in a few hours' time. Regeneration, the only attention necessary, is accomplished in about 20 minutes every two weeks.

Another method of avoiding hard scale deposit formed in pipes and tubes by oxide of iron (rust) is by the use of brass pipe. Many are the occasions when an elbow or small pipe clogged with scale has meant a menace to health by deranging the water system just when it was most in demand. The expense for repairs and renewals on ordinary pipe through this one factor alone is often a serious item. Brass pipe costs more in the beginning but less in the end.

The wise builder will install a water softener and brass piping in every job—it will add to his reputation of building satisfaction in every house.



The modern water softener is simple to operate and maintain. Above is a typical Wayne Water Softener at work in the house



The Gambling Plumber of Ancient Rome

FIFTY miles outside the ancient city of Rome, there was a lake which by decree supplied the imperial table with water. To accomplish this and supply the city at large with other suitable water, the ancient engineers built aqueducts of masonry and underground tunnels. The necessity for siphons across the valleys and for branch lines developed a need for pipe.

Sections still exist of 12 to 18-inch lead and terra cotta pipe used in siphons which withstood a pressure of 100 pounds per square inch.

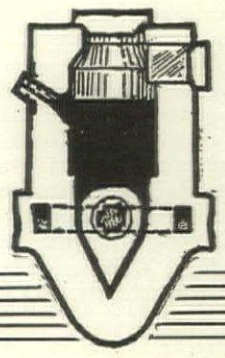
Just picture an old Roman "plumber" fitting his 10-foot length of pipe into a block of stone more than a foot square in whose adjoining walls connecting holes had been cut, the whole serving as an elbow.

Those who did not wish to gamble to such an extent on leak proof water lines imbedded the pipe in concrete. Today, the wise builder who does not wish to gamble on his clients' walls and furniture and hence his own reputation, installs brass plumbing throughout.

Uniformity insures dependability, for which reason Bridgeport Plumrite Brass Pipe behind the walls and Bridgeport Plumbing Goods where the plumbing shows, combine to form the ideal plumbing installation from the standpoint of economy, beauty and comfort.

"Bridgeport" BRASS TRADE MARK CO.
Plumrite
WE MAKE
Ledrite Brass Rod
Phono-Electric Contact Wire
Plumrite Brass Pipe
Phono-Hi-Strength Wire
Tubular Plumbing Goods
Condenser Tubes - Sugar Tubes
Brass, Bronze and Copper Sheets
Brass, Bronze and Copper Tubes
Auto Bicycle and Pressure Pumps
Auto Accessories - Stampings
Engravers' Copper - Specialties
Screw Machine Products
Pressed or Drawn Products
Oil and Grease Guns

Brass Pipe



Electric Furnace Brass

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BRIDGEPORT - CONNECTICUT
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If you did not get some of the Bridgeport Brass tacks at the Associated General Contractors' Convention at Washington, just let us know and the number you would like.

Member Copper and Brass Research Association

WHAT'S NEW



New Materials and Equipment that Keep Your Work Up to Date

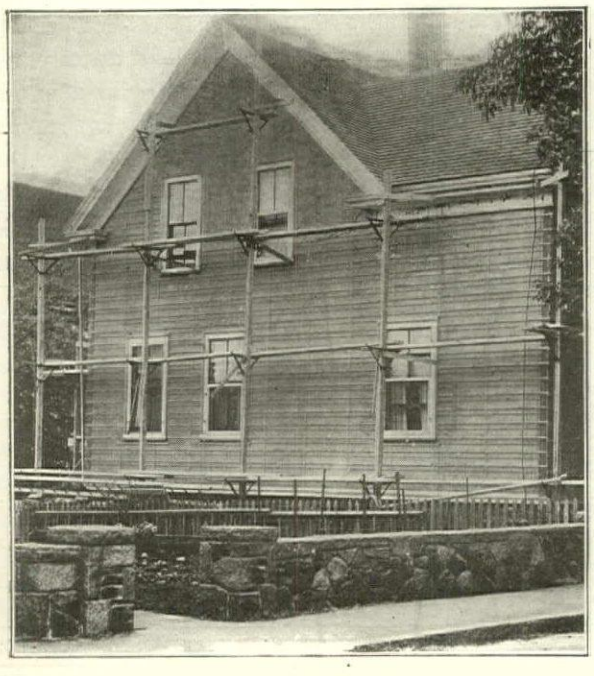
All Steel Scaffolding Brackets

SCAFFOLDING of the old-fashioned type has many drawbacks, for in addition to being dangerous it is unsightly and wasteful of both lumber and time.

A device designed to eliminate these drawbacks is the Beaver Bracket, manufactured by the Beaver Metal Products Co., of Boston. These brackets are all steel, are portable and easily adjusted. They can be used any number of times and will sustain heavy loads, having been tested up to 4,000 lbs.

Brackets of this type are notable time-savers, as they can be put up in about half-a-minute and taken down very quickly. The spur points are heat treated for extra strength, to be used on the hardest pine timber. No tools are necessary to fasten brackets to the poles.

These brackets, in combination with Beaver Bases, can be employed in a variety of other ways, such as for plasterers' staging barrel racks, automobile tire racks, storage platforms, interior scaffolding, etc. They are made in two sizes to fit standard 2″ x 4″ and 4″ x 4″ planks. The illustration below shows Beaver brackets adjusted and gives an idea of their adaptability.



Scientific Damp-Proof

THE elements are the arch-enemy of all exterior building surfaces. Their action, atmospheric dust, penetration of rain, and frost—all tend to destroy the surface texture of brick, concrete, stone, cement, terra cotta, etc. Once begun, the disintegration is constant, ruining not only the surfaces but often impairing even the stability of buildings.

Sand blasting, while it cleans the surfaces of stone structures, removes a thin layer of the outer surface and eventually destroys the beauty of texture and details. The conditions call for a scientific preservative to arrest and prevent the action of the elements. A preservative made by the Kuckro Chemical Co. of New York, effectually fills the surface pores, thus preventing penetration of moisture.

This compound, Dampex, is a scientific weather, water, and damp-proof. It is neither a paint nor a coating, but a light, colorless, non-inflammable liquid, which, applied to brick, stone, cement, stucco, brownstone, wood, etc., penetrates the pores, rendering the surface absolutely waterproof. Its action is the same in any climate, since it is not affected by heat or frost. It does not contain acid or alkali, and thus will not cause stains or discoloration.

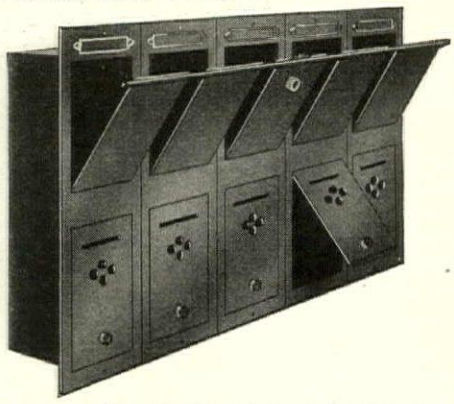
Dampex is not an ordinary surfacer or coating, but a preparation which thoroughly fills the pores or voids. It will penetrate any material from ⅛″ to ¾″, securely sealing it against weather and atmosphere.

This preparation is applied as easily as paint, and can be done by any laborer. It drys in about an hour without staining or changing the color of the most delicate marble or tinted stucco.

It can be used on all types of construction and is especially useful for swimming pools, cisterns, etc.

Improved Mail Boxes

THE great desideratum in mail boxes is strength combined with ease of operation and protection against tampering. A box meeting these requirements and which has all cast brass front and doors with reinforced edges is the Standard Mail Box, manufactured by the Standard Sales & Mfg. Co. of New York.

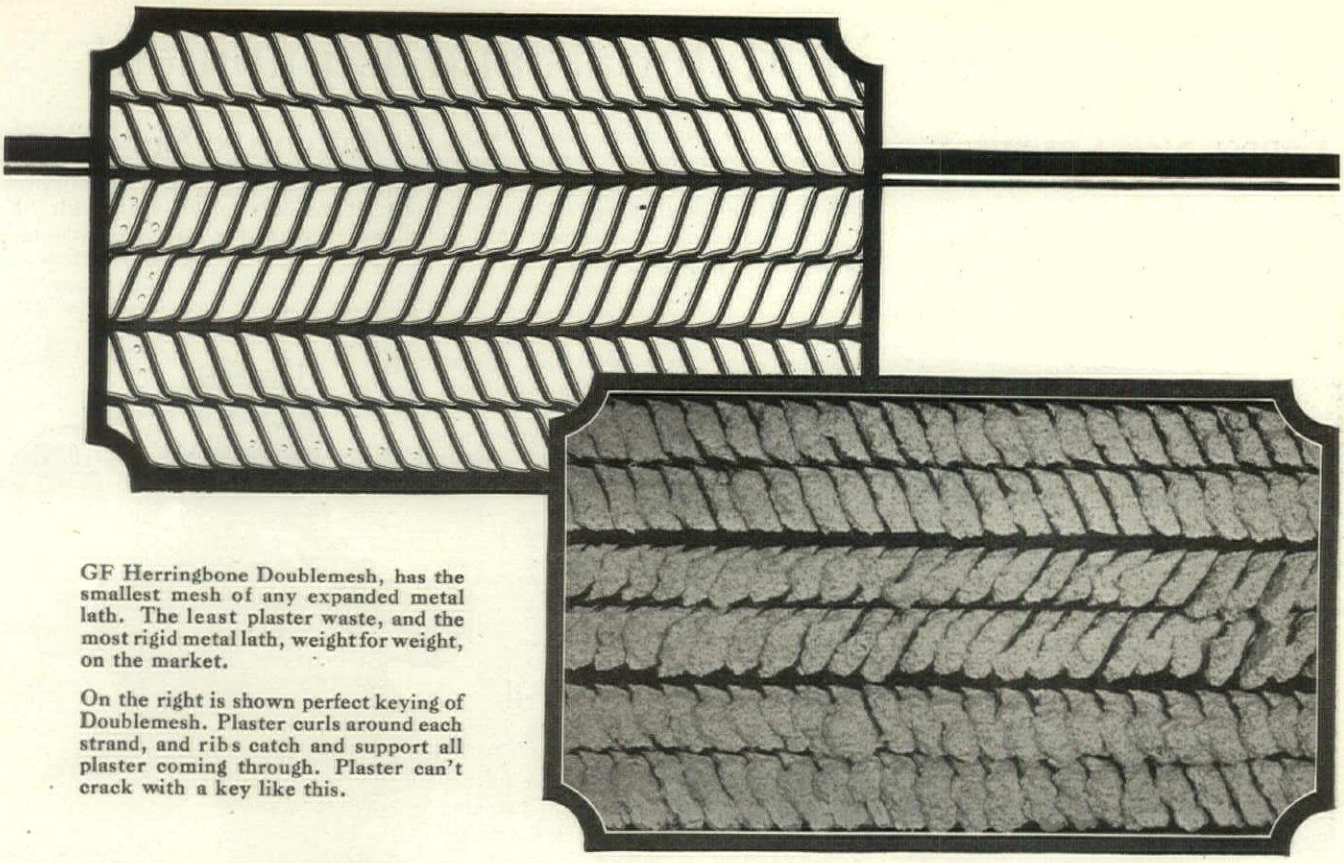


These apartment house boxes are stronger and safer than the stamped or sheet metal kind.

As shown in the accompanying illustration, the upper doors are connected by a half round brass rod with concealed fastenings, forming a master door, so that any series of boxes can be operated at one time and mail deposited by the carrier. It is controlled by a government lock attached to the center door.

Cleansable Window Shade Fabric

WINDOW shades are often ruined by rain, when windows are left open, or are faded by sunlight. In order to meet this condition, E. I. du Pont de Nemours & Co., of Wilmington, Del., have developed a window shade fabric formed of material with a woven cotton base and a pyroxylin finish. This fabric when soiled through use or exposure can be renovated by scrubbing with soap and water. It has been specially constructed and treated chemically so that it will not crack or sag, thus avoiding two of the main reasons for the replacements of shades at frequent intervals. The introduction of this pyroxylin coated material permits a cleaning and restoration of shades even after long use.



GF Herringbone Doublemesh, has the smallest mesh of any expanded metal lath. The least plaster waste, and the most rigid metal lath, weight for weight, on the market.

On the right is shown perfect keying of Doublemesh. Plaster curls around each strand, and ribs catch and support all plaster coming through. Plaster can't crack with a key like this.

Now Metal Lath Can Be Used In Every Plaster Wall

THE introduction of GF Herringbone Doublemesh Lath opens the way to the general use of metal lath in dwelling houses.

At a cost almost on a par with that of ordinary wood lath construction, you can today give house buyers the manifold advantages of metal lath construction. You can assure them of complete freedom from lath streaks, checking, cracking and falling plaster. With all this they get the fire protection of plaster reinforced with steel.

Economies of labor and material, when using it, enable builders to make more money on Doublemesh construction, and at the same time build good will by giving their customers a permanently satisfactory job.

Samples will gladly be sent, together with illustrated booklet: *"Better Walls and Bigger Profits."*

THE GENERAL FIREPROOFING COMPANY, *Youngstown, Ohio*

New York · Chicago · Philadelphia · Boston · Cleveland · Los Angeles · St. Louis · Omaha
Kansas City · Minneapolis · Milwaukee · San Francisco · Syracuse · Atlanta · Mexico City

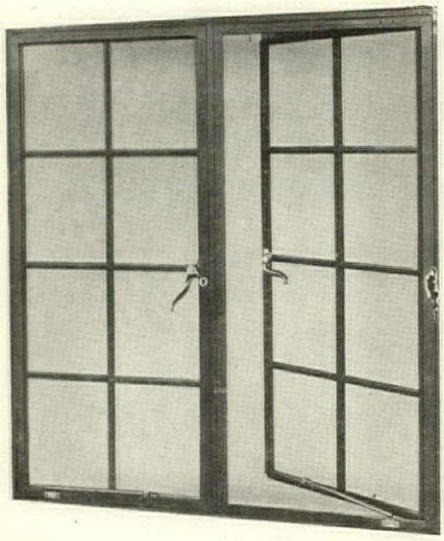
Export Department: 438 Broadway, New York City *Cable Address:* "Genfire-New York"

GF Herringbone Doublemesh Lath

What's New in Materials and Equipment

Copper Steel Casement

IMPROVED casements of copper steel made in three standard units, that can be combined to fill large or small openings, are recent improvements made by the Truscon Steel Co., Youngstown, Ohio. By reversing the casement, opening from either right or left hand may be secured.



In the latest type, the method for attaching the friction stay at both top and bottom is provided in the process of manufacture. The handle is attached directly to dead center, making it possible for the casements to be reversed.

New Tilting Mixer for Small Jobs

CONTRACTORS who specialize in small jobs will find greater economy in the use of a small concrete mixer. A new small tilting mixer expressly designed to meet their needs has been placed on the market by the T. L. Smith Co. of Milwaukee.

This mixer is known as the Smith Mascot and is the smallest tilter made. In spite of its diminutive size it embodies all the qualities of its makers' larger models and gives to the small job efficient, economical service, while its simplicity of design and rugged construction insure long and low maintenance costs. It is extremely light (730 lbs.) and easily portable, and can be used in cramped quarters because of its compact construction.

The drum is of the fast mixing, fast discharge, and self-cleaning Smith Tilting type. It is all steel construction, electric welded, gear-driven, and has the exclusive "end-to-center" mixing action. It is practically self-tilting, because the batch shifts to the discharge side as soon as tilting is started. Because of the double-cone two-opening design, it is only necessary to tilt the drum 45 degrees for discharge, and the tilting is readily accomplished from either side of the mixer by means of a tilting lever that slides back and forth and is easily lifted or depressed by hand.

The charging opening is described as being the lowest of any tilting mixer, and a feed chute is provided giving an unusually large charging opening. The charging hopper, which is only supplied on the Smith Tilter, serves as a rest for the sack of cement when splitting it, giving faster and less wasteful handling.



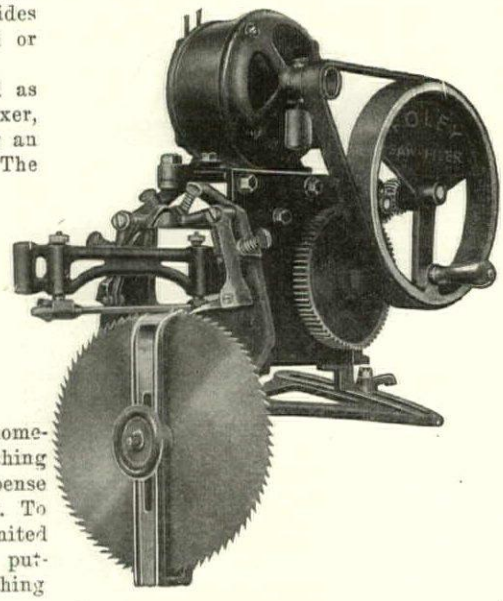
A Plaster for Small Patching Jobs

OFTEN painters, decorators and homeowners desire to do small patching jobs but are loath to go to the expense of buying large quantities of plaster. To meet their requirements the United States Gypsum Co., of Chicago, is putting on the market "Red Top Patching Plaster" in 2½ lb. cartons.

This plaster is ready-mixed, subject to quality control at the factory, so as to require the addition of water only before it is applied. It has been formulated to work easily, to spread far and to set after ample time has been allowed for smoothing the surface. It is adapted to filling fine cracks or larger wall-defects. This material forms a chemical bond with the old plaster, and by making the patch homogeneous with the rest of the plastering, it safeguards against reappearance of the crack or hole.

Automatic Saw Filer

NO sooner was the saw invented than it needed to be sharpened. For scores of years the filing and setting of saws has been an irksome, tedious job, and mechanical or automatic saw filing a problem many inventors have struggled to solve. A solution is provided in the machines manufactured by the Foley Saw Tool Co., of Minneapolis.



Two devices have been perfected, one for filing saws, and one for setting the teeth. The saw filer is very simple in construction, having only four moving parts, with simple adjustments. A standard file is placed in a carrier which moves in a horizontal direction, bearing on the saw tooth one way, and returning above the saw for the stroke on the next tooth on the same side of the saw.

The saw is moved forward after each stroke of the file by automatic feed pawls, which are quickly adjusted for any saw to bring the next tooth exactly under the file. The bars which clamp the saw are graduated on each edge to provide a perfect feed for different saws. In this way a perfect uniformity, spacing and alignment of the teeth is restored and maintained on the saw. After filing the teeth on one side the saw is reversed, no change being necessary in the adjustment of the saw filer.

The carrier holding the file can be quickly adjusted at any desired angle to the saw, thus giving any degree of pitch or bevel required on the teeth of the circular saw.

Tested and used for twelve years
—*and now ready for YOU!*



A scientific hardening, damp-proofing, and waterproofing preparation for

CONCRETE—BRICK—STONE
GRANITE—STUCCO—WOOD
CEMENT *and* BROWNSTONE

•

DAMPEX HAS PROVEN SUCCESSFUL TO THE FOLLOWING USERS

Military Academy, West Point, N. Y.

Metropolitan Museum of Art
New York City

Obelisk, Central Park
New York City

Eimer & Amend Building
New York City

Swedish Hospital, Brooklyn, N. Y.

East Brooklyn Savings Bank
Brooklyn, N. Y.

National Museum, Washington, D. C.

University Museum of Pennsylvania
Philadelphia, Pa.

Church of Lady De Loretto
Brooklyn, N. Y.

Government Storage Warehouse
Mill Island, N. Y.

and many others

IT WILL PAY YOU TO READ THIS:

DAMPEX is a tried and proven waterproofer with a history that will interest every architect and builder.

Twelve years ago, Dr. Wm. Kuckro first used DAMPEX. At that time, he was Chief Chemist of the Metropolitan Museum of Art. Necessity proved to be the mother of invention, and DAMPEX was discovered to treat all stone work at the museum, including the world-famed Obelisk.

Results were so successful that Dr. Kuckro applied DAMPEX at the U. S. Military Academy at West Point, The National Museum at Washington, The East Brooklyn Savings Bank, The Government Storage Warehouse at Mill Island, N. Y., and innumerable other buildings, some of which are listed on this page.

WHAT DAMPEX IS: DAMPEX is a scientific weather, water, and damp-proofer, not a paint or coating, but a light, colorless, non-inflammable liquid which, when applied to brick, stone, cement, stucco, brownstone and wood, penetrates and makes same absolutely waterproof.

WHAT DAMPEX DOES: DAMPEX fills all crevices and pores, thus preventing the penetration of dampness, water and air. DAMPEX is positively waterproof, will stand up in any climate and is not affected by heat or frost. DAMPEX does not contain acid or alkali, and is an absolutely neutral preparation that will not affect any kind of stone DAMPEX will keep your building from deteriorating, and give it longer life.

HOW DAMPEX IS APPLIED: Any unskilled laborer can apply DAMPEX. Merely spray or brush DAMPEX over the surface to be waterproofed. One gallon of DAMPEX will cover 300 square feet the first application, and 500 feet the second application. Hence it is a very economical waterproofing material. When mixed with paints, DAMPEX replaces linseed oil or other material and hardens the paint like an elastic mass, so that it does not oxidize thereafter. DAMPEX will dry in about an hour, so that you will save time, as well as money by using it.

Our Guarantee We guarantee all claims that we make for DAMPEX in the booklet that we shall gladly send to you upon request. There are other good waterproofing materials on the market but we firmly believe that there is no preparation as thorough, as easily applied, and with results so positively assured as DAMPEX. Send for this booklet, samples of concrete and wood treated with DAMPEX, and recommendations from builders and architects who have found DAMPEX satisfactory during the past twelve years.

DEALERS:

Write for our especially attractive dealer proposition. Exclusive territories now being given if you act quickly. ACT NOW!

BRIEFLY—DAMPEX is endorsed by leading architects and builders. The above references speak for themselves, but an investigation will convince the most skeptical of the virtues claimed by DAMPEX.

KUCKRO CHEMICAL CO., Inc.
105 Hudson Street, New York, N. Y.

Send for FREE *Sample* NOW!

KUCKRO CHEMICAL CO., Inc,
105 Hudson St., Dept. A, New York, N. Y.
Gentlemen:
Please send me the facts on DAMPEX, with a sample treated on concrete and wood.

Name .....
Firm .....
Street .....
City .....

Selected List of Manufacturers' Literature

For the Service of Builders, Contractors, Architects and Engineers

THE publications listed in these columns are the most important of those issued by leading manufacturers identified with the building industry. They may be had without charge, unless otherwise noted, by applying on your business stationery to BUILDING AGE AND NATIONAL BUILDER, 239 West 39th Street, New York, or the manufacturer direct, in which case kindly mention this publication. Either the titles or the numbers may be used in ordering. This list of Manufacturers' Literature is an editorial feature maintained for the convenience of our readers. It is not a part of the advertiser's contract and BUILDING AGE AND NATIONAL BUILDER assumes no responsibility for its correctness.

(See also Alphabetical Index, page 262)

ADJUSTABLE SHELVES
Garden City Plating & Mfg. Co., 1430 South Talman Avenue, Chicago, Ill.
1267. *Samples upon request.*

ALUNDUM FLOORS—See Flooring Composition

ARTISTS' MATERIALS
New York Blue Print Paper Co., 102 Reade St., New York.
1035. *Catalogue* containing the complete line of drawing materials, engineers' supplies and sensitized papers and cloths. Prices are not included. 6 x 9 in. Illus. 384 pp.
Peerless Blue Print Co., 341 Fifth Avenue, New York.
1294. 386-*page descriptive catalog* catering to the needs of the architect, draftsman and builder.

ASBESTOS PRODUCTS
Asbestos Shingle, Slate & Sheathing Co., Ambler, Pa.
1. *Ambler Asbestos Shingles.* Catalogue. 44 pp. Illustrated.
2. *Ambler Asbestos Corrugated Roofing and Siding.* Catalog, 8½ x 11 in. 36 pp. Standard Purlin Spacing Tables.
3. *Ambler Asbestos Corrugated Roofing and Siding.* Catalog, 8½ x 11 in. 20 pp. Illustrated. Prices and specifications.
4. *Ambler Asbestos Building Lumber.* Catalog. 32 pp.
5. *Engineers' Data Sheets.* Catalog, 8½ x 11 in. 40 pp. Illustrated. Specifications and working sheets for Ambler Asbestos Corrugated Roofing and Siding.

Johns-Manville, Inc., 41st Street & Madison Avenue, New York.
700. *Johns-Manville Products.* 16-pp catalog, giving a list of the products manufactured by this firm.

ASBESTOS ROOFING—See also Roofing Materials
ASH HOISTS—See also Hoists
ASH PIT DOOR—See Coal Chutes
AUGER—See Edge Tools
AXES—See Edge Tools
BAND SAWS—See Saw and Saw Machinery
BAR BENDERS AND CUTTERS
Koehring Company, Milwaukee, Wis.
13. *Four-page folder,* giving illustrations and sizes of Koehring Bar Benders and Cutters.

BATCH BOXES—Steel
Ashland Products Co., The, Ashland, Ohio.
1321. *Boxes made in two standard sizes.* Special sizes made to order. Send us your specifications.

BATHROOM FIXTURES
The Fairfacts Co., Inc., 234-236 West 14th Street, New York.
746. *Catalog F,* 4 x 9 in. 12 pp. Illustrated. Describes full line of china fittings for bathrooms.
1127. *The Perfect Bathroom.* Booklet, 4 x 9 in. 12 pp. Illustraced. Shows full line, Biltin and Projecting Types, installed.
Johnson Plumbing & Supply Co., 3639-61 S. Halsted Street, Chicago, Ill.
1391. *Free Supplement* of bathroom cabinets, closets, etc. A pencil sketch of requirements will bring an estimate free of charge.

BEDS, DOOR—See Built-In Features
BITS—See also Carpenters' Tools and Edge Tools
Progressive Mfg. Co., Torrington, Conn.
493. *Twelve-page booklet,* describing the "Forstner Bilts."

BLACKBOARDS
Knickerbocker Slate Corpn., 153 East 38th Street, New York.

BLOCK MACHINERY—See Concrete Machinery

BLUE PRINTS
New York Blue Print Paper Co., 102 Reade Street, New York.
Peerless Blue Print Co., 347 Fifth Avenue, New York City.
403. *Splendid Drawing Board Outfits* are manufactured in conjunction with the making of blue prints.

BOILERS—See Heating Equipment
BOOKS—See also Plans
Architectural House Planning Service Co., 20 South 18th Street, Philadelphia, Pa.
936. *"Small Homes of Character."* $1.00.
Building Age and National Builder, 239 West 39th Street, New York.
"Beautiful Homes of Moderate Cost." $1.00.
"Homes of Beauty and Convenience." $1.00.
"Beautiful Bungalows." $1.00.
Chicago Technical College, 1038 Chicago Tech. Bldg., Chicago, Ill.
937. *Free for the asking,* the following two books: "Building Construction" and "Plan Reading and Estimating."
International Textbook Schools, Box 9120, Scranton, Pa.
1226. *"Estimating Building Costs, Specifications and Contract Writing."* 344-page book, 6 x 9 in., handsomely bound in green, red and gold, covering such subjects as Building Erection and Construction, Carpenter Work, Painting, etc. Price $3.00.
Keith Corp., 100 North 7th Street, Minneapolis, Minn. (See listing under plans.)
U. P. C. Book Co., 239 West 39th Street, New York City.
Walker, Frank R. Co., 536 C. Lake Shore Drive, Chicago, Ill.
1235. *New Fifth (1924) Edition* of the Building Estimator's Reference Book and the Vest-Pocket Estimator. The former is a 1,600 page book 4½ x 6¾ in., profusely illustrated and flexibly bound. The latter is 2¾ x 5 in., fits in the vest pocket.

BRACKETS FOR ROOFING
Ajax Bracket & Outlet Co., 1551 Rydal-Mount Rd., Cleveland Heights, Ohio.
1121. *Illustrated Leaflets,* describing the Ajax Bracket, also quoting prices.

BRACKETS—FOLDING
Beaver Metal Products Co., 80 Boylston Street, Boston, Mass.
1358. 16-*page Illustrated Folder* describing folding brackets for builders.

BRACKETS—LADDER
Seaman Safety Bracket Corp., Rochester, N. Y.
1301. *"Why Take Chances?"* 24-page illustrated catalog showing actual proven facts as to the safety and strength of these brackets.

BRANDING IRON
Everhot Mfg. Co., Maywood, Ill.
1219. *Descriptive Circular.* Illus. an iron which brands tools, sheeting, scaffolding, wheelbarrows, etc., easily and quickly.

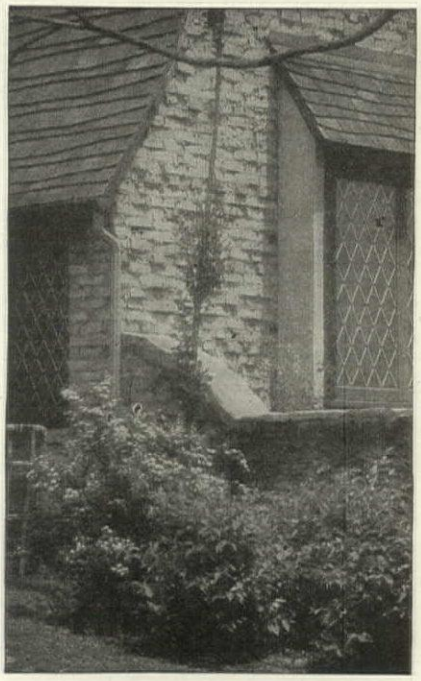
BRONZE & BRASS CAST REGISTERS—See Grilles
BRASS—See Pipe and Plumbing Equipment
BRASS HARDWARE—See Hardware

BRICK
American Face Brick Association, 130 No. Wells St., Chicago, Ill.
15. *The Story of Brick.* Contains the history of and basic requirements of building brick, artistic, sanitary and economic reasons, comparative costs, and fire safety, with photographs and drawings, and illustrates ancient and modern architectural works of note in brick. Sent free.
16. *A Manual of Face Brick Construction.* The history of brick making, types of face brick, showing details of construction for walls, chimneys and arches. Details of use of tile and brick construction and different types of bonds are given. A series of plans and elevations of small brick houses, descriptions, useful tables and suggestions are illustrated and described. Size 8½ x 11 in. 116 pp. Price $1.00.
17. *The Home of Beauty.* A booklet containing fifty prize designs for small brick houses submitted in national competition by architects. Texts by Aymar Embury II, Architect. Size 8 x 10 in. 72 pp. Price 50 cents.
18. *Architectural Details in Brickwork.* Three series of beautiful half-tone prints of brickwork details, contained in closed folders suitable for standard vertical letter file. The three series contain 124 prints in all. Size 8½ x 11 in. Price $1.50 per set.
601. *Bungalow and Small House Plans.* Four booklets containing plans for attractive small brick houses, containing 3-4, 5, 6 and 7-8 rooms. 50 pp. Ill. 25 cents each. $1.00 for the set.
Common Brick Manufacturers' Association of America, 2131 Cleveland Discount Bldg., Cleveland, Ohio.
19. *Brick—How to Build and Estimate.*. 3rd edition, 32nd thousand. A manual of solid brick and Ideal wall construction. Contains data on the strength of brickwork, on mortars, bonds and joints and equipment, and contains complete estimating tables for quantities of brick, mortar, material and approximate mechanics' time for various thicknesses and square foot areas of solid wall. 72 pp. Price 25 cents.
20. *Brick for the Average Man's Home.* Book, 8½ x 11 in. 72 pp. Color plates. Book of plans for bungalows, houses and apartments for which working drawings are available. Price, $1.00. "Brickwork—Working Details"—15c.
Hocking Valley Products Co., Logan, O.
1369. *Interesting information* on Face Brick will be sent on request.
Western Brick Co., Danville, Ill.
1252. *Catalog* describing Doric and Gothic Brick. On request.

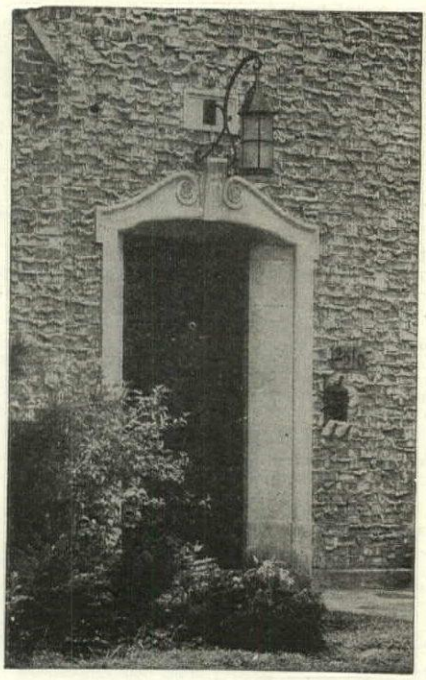
BUILDING BLOCKS
Crozier-Straub, Inc., 120 West 42d St., New York.
1297. *"Straub Cinder Blocks"* have a dozen good reasons for their use. Write for the complete catalog, including tests and reports.
Dunn, W. E., Mfg. Co., 700 W. 23d St., Holland, Mich.
1309. *"Duntile,"* the perfected all-purpose concrete unit offers a splendid opportunity for its manufacture.

BUILDING CONSTRUCTION
The General Fireproofing Company, Youngstown, Ohio.
975. *The Fireproofing Handbook.* A book dealing with the subject of fireproof construction through the use of Self Centering, Trussit, Expanded Metal, Metal Lath and Steel Lumber.
976. *Building for Permanence and Beauty.* A book on home building. Illustrates and describes the use of metal lath as a stucco and plaster base. 32 pp. 5½ x 7¾ inches.
International Steel & Iron Co., Dept. 19, Evansville, Ind.
Milwaukee Corrugating Co., Milwaukee, Wis.
1199. *"Metallic Construction for the Modern Home."* 16 pp. Illus. and descriptive booklet showing the interior of homes built with "Milcor" Stay Rib.
National Manufacturing Co., Sterling, Ill.
404. *"National Garage Hardware"* is a 32-page book, 6 x 9 in., illustrating a number of garages with their corresponding working drawings. The booklet describes the equipment for those of simple design to those of more elaborate proportions.
North Western Expanded Metal Co., 1204 Old Colony Bldg., Chicago, Ill.
973. *"Home Building."* 6 x 9 in. 36 pp. Illus. Catalog for the prospective home builder, explaining the use of metal lath.

SKINTLED BRICK WORK

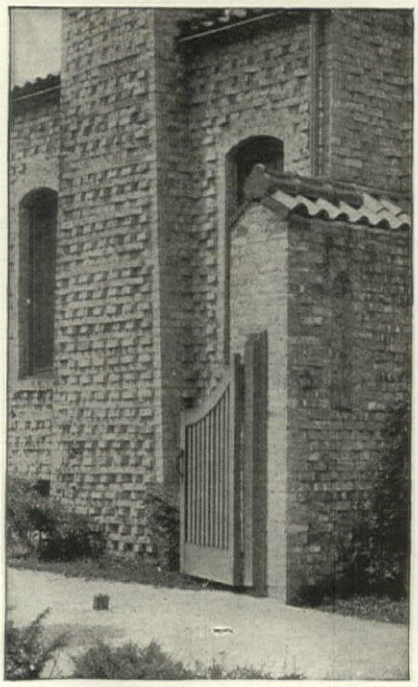


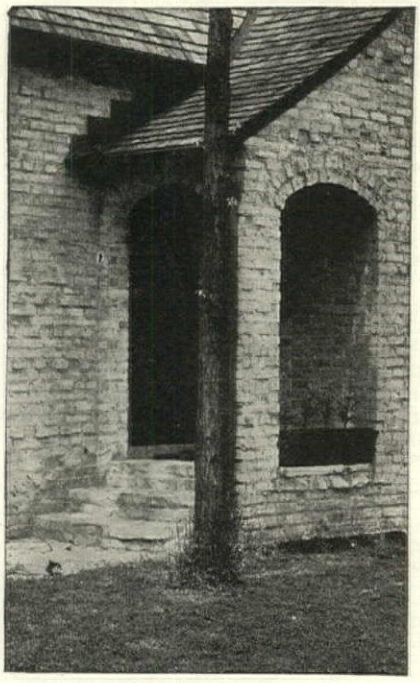
New Surface Effects That Make Uncommon Homes with Good Old COMMON BRICK



You would never guess that the wall to the left is Common Brick. The irregular surface secured by the skillfully worked out pattern gives a unique antiqueness quite in keeping with the design of the home.

Mortar is used in the wall illustrated at the right in a quite out of the ordinary way. This home is in one of Chicago's most exclusive residential districts. In this instance Common Brick was used for its beauty alone.





The illustration at the left shows a corner of an attractive bungalow in which the brick project at various angles. The effect is far from ordinary, yet low-priced Common Brick is used for this wall.

The porch at the right illustrates a more conservative variation. These illustrate only four of the many new, novel and antique effects that have been produced by leading architects in Common Brick work.

MEMBER
by invitation
of THE MASTER
HOUSE BUREAU

Complete dimension sketches showing how to secure these and other novel effects are given in this newest booklet "Skintled Brick Work." Send 15 cents for a copy. Do it *now*—the edition is limited. If you have not yet received your copies of our latest plan books send 35 cents for all three books.

The Common Brick Manufacturers' Association of America

2133 Cleveland Discount Building, Cleveland

Further information from any of these district offices

Chicago—Chamber of Commerce Bldg.
Detroit—404 Penobscot Bldg.
Hartford, Conn.—226 Pearl St.
Los Angeles—342 Douglas Bldg.
Nashville, Tenn.—Harry Nichol Bldg.

The Common Brick Manufacturers' Association of America
2133 Cleveland Discount Building, Cleveland
Enclosed find.....cents. Send me a copy of
{ } Skintled Brick Work—15c
{ } The Home You Can Afford—10c
{ } Your Next Home—10c
Name.....
Address.....

New Orleans, La.—904 Carondelet Bldg.
New York City—25 W. 45th St.
Philadelphia—2027 Chestnut St.
San Francisco—811 Sharon Bldg.
Seattle, Wash.—524 Burke Bldg.

Selected List of Manufacturers' Literature

(*Continued from page* 196)

Sykes Metal Lath Co., Niles, Ohio.
1334. *Catalog* containing full information regarding better building specialties.

Truscon Steel Company, Youngstown, Ohio.
21. *Truscon Floorstyle Construction.* Form D-352. Contains complete data and illustrations of Floortype installations. 16 pp.
22. *Truscon Standard Building.* Form D-398. Describes Truscon Standard Steel Buildings, with diagrams, illustrations of installations, descriptive matter and list of users. 48 pp. Ill.
23. *Truscon Building Products.* Form D-376. Contains a brief description of each of the Truscon Products. 112 pp. Ill.
24. *Modern School Construction.* Form D-395. Contains illustrations of schools, with typical elevations, showing advantages of Truscon Products for this construction. 16 pp. Ill.

BUILDERS' HARDWARE—See Hardware

BUILT-IN FEATURES—See also Bathroom Fixtures

American Bed Co., 18 Park Avenue, St. Louis, Mo.
1249. *Handsome Portfolio of Disappearing Beds.* Gives full details and advantages of the Out-O-Site.

Concealed Bed Corp., 434 Garland Bldg., Chicago, Ill.
1215. *"Landing the Job."* Folder giving sales talks on how to get jobs to install these Concealed Beds.

Fain Manufacturing Co., Norfolk, Va.
1102. *"The Fain Fold-Away Dining Room,"* 4-page folder, illustrating by photographs and diagrams the extra room that requires only six-inch depth space.

Majestic Steel Cabinet Co., 4223 Belle Plains Ave., Chicago, Ill.
1220. *Catalog* describing the union made "Majestic" Line includes the following: Built-In Steel Kitchens, Kitchen Cabinets, Linen Cabinets, Wall Cabinets, Steel Pantries, etc.

Murphy Door Bed Co., 22 W. Monroe Street, Chicago, Ill.
402. *"Year Book."* Showing a number of plans and interiors of efficiency type apartments, homes and apartment hotels.

National Mill and Lumber Co., 2 Rector Street, New York.
1081. 10-*page Illustrated Folder.* Describes the necessity and advantages of a National Built-In Ironing Board.
1124. *"Out of the Way in a Jiffy."* 10-page illustrated folder, describing the mechanism of the Built-In Ironing Board.

Ohio State Stove & Mfg. Co., 666 Lakeshore Drive, Chicago, Ill.

Phoenix Cabinet Co., Inc., 419 Union Bldg., Syracuse, N. Y.
1250. 6-*page Illustrated Folder* describing the Phoenix Phone Cabinet, which conceals the bell-box and protects the telephone.

Wasmuth-Endicott Co., Andrews, Ind.
1384. *Kitchen Maid* unit systems are featured in a 12-page folder. This and another mailing piece, showing additional built-in kitchen apparatus, may be obtained.

BUTTS—See Hinges & Butts

CABINETS, MEDICINE

Hess Warming & Ventilating Co., 1204-7 Tacoma Bldg., Chicago, Ill.
804. *The Hess Sanitary Medicine Cabinet Lockers and Mirrors.* Description of an enameled steel medicine cabinet for bathrooms.

Majestic Steel Cabinet Co., 4223 Belle Plaine Ave., Chicago, Ill.
1293. 4-*page folder* describing by means of photographs and working drawings four types of medicine cabinets.

Ohio State Stove & Mfg. Co., 666 Lakeshore Drive, Chicago, Ill.
1306. *Send for our catalog* describing a splendid all-steel cabinet.

CANVAS—See Roofing Materials

CARPENTERS' TOOLS—See also Edge Tools

CASEMENTS—See Doors & Windows.

CASEMENT HARDWARE—See Window Hardware

CAULKING AND GLAZING COMPOUND

Toch Bros., 110 E 42d Street, New York. (See lising under Cement Paint.)

Weatherproof Calking Co., 756 Washington Ave., No. Minneapolis, Minn.
1264. *Write for information and prices.*

CEILINGS, METAL

The Edwards Manufacturing Company, Cincinnati, Ohio.
33. *Pamphlet of 32 pages,* describing metal ceiling and wainscoting. Well illustrated, with list prices.

Milwaukee Corrugating Co., Milwaukee, Wis.
2000. *"Milcor Art Metal Ceilings."* 12 pp. illus. folder describing appropriate metal ceilings for all types of buildings.

The Moeschl-Edwards Corrugating Company, Inc., P. O. Box 564, Dept. BA, Cincinnati, Ohio.
1172. *We have an unlimited variety* of designs suitable for stores, restaurants, etc.—a 50-page catalog illustrating and describing Mecco Art Metal Ceilings and Side Walls.

CELLAR DRAINER

Penberthy Injector Co., 1244 Holden Avenue, Detroit, Mich.
1247. *Interesting booklet* describing this automatic cellar drainer.

CEMENT

Alpha Portland Cement Co., Easton, Pa.
34. *Alpha Cement—How to use it.* A practical handbook on popular forms of concrete construction.
35. *Alpha Service Sheets* and Bulletins. Special instructions on concrete construction.
36. *Alpha Aids.* A bi-monthly magazine for buyers, sellers and users of Portland Cement.

The Atlas Portland Cement Co., 25 Broadway, New York, N. Y.
37. *The Atlas Book on Concrete Construction.* A text book written for the average builder on concrete and from the practical rather than from the technical standpoint.
81. *Concrete on the Farm.* The most comprehensive book of its kind. Practical and thoroughly reliable instructions, with plans and pictures of all possible farm structures for which concrete can be used.
52. *Other Publications.* The Atlas Portland Cement Company has numerous other publications, covering nearly every phase of concrete construction. Their Service Department will give sound advice on any phase of concrete construction.

Kosmos Portland Cement Co., Louisville, Ky.
1224. *"Kosmortar,"* the ideal cement for masonry.

Lehigh Portland Cement Co., 30 E. 42d Street, New York.
1372. *"Lehigh Portland Cement"* is a 48-page book dealing with the product and its application to large projects.
1373. *The Expense-Proof Farm* constructed with the aid of concrete. 96 pages of illustrations and description.

Louisville Cement Co., Inc., 407 Speed Bldg., Louisville, Ky.
1278. *"Brixment for Perfect Mortar,"* handbook with filing tab. 8½ x 11 in.

Pennsylvania Cement Co., New York.
1376. *Pennsylvania Concrete Manual,* a valuable handbook for all users of cement. Illustrated with line drawings.

Portland Cement Assn., 111 W. Washington Street, Chicago, Ill.
1000. *"Concrete Masonry Construction,"* 8½ x 11 in. 32 pp. Ill. Catalogue giving information in regard to approved practices and methods successfully employed in concrete masonry construction by architects, builders, concrete products manufacturers and others of wide building experience.
1001. *"Concrete Floors.* 8½ x 11 in. 16-page booklet, giving facts and figures about concrete floors.

CEMENT PAINT

Toch Bros., 110 E. 42d Street, New York.
1192. *"Red Book,"* 5¼ x 8⅛ in. 32 pp. Ill. Catalog giving an authoritative treatise on preservative and decorate paints and allied products.

CEMENT TOOLS

Abram Cement Tool Co., 3818 Grand River Ave., Detroit, Mich.
1270. *Illus. Catalog* describing the double action tool which is useful for every type of work.

CEMENTS—HIGH TEMPERATURE

Johns-Manville, Inc., 41st Street & Madison Avenue, New York.
1082. *Refractory Cements.* 16 pp. illus. catalog giving some inside facts on this subject.
1083. *Aerite Boiler Wall Coating.* 6-page illustrated folder describing how Aertite saves fuel.
1084. *Firebrick.* 4-page folder illustrating the value of Refractory Cement No. 31.

CHEMICALS—CALCIUM CHLORIDE

Solvay Process Co., 40 Rector Street, New York.
1206. *"For Concrete Summer and Winter."* 16 pp. Illus. catalog describing the uses of Solvay Calcium Chloride for concrete.

CINDER BLOCKS—See Building Blocks

CHISELS—See Edge Tools.

CLAMPS

Black Bros. Co., The, Box 107, Mendota, Ill.
1291. *Catalog No.* 12 describes and illustrates the complete line of clamps, glue heaters, etc.

Taylor, James L., Mfg. Co., Poughkeepsie, N. Y.
14. *Catalog,* 4 x 7 in. 32 pp. Ill. Booklet describing the Taylor quick adjusting self-locking clamps. Price list.
996. *"Taylor Clamp Carrier."* 4 pp. Ill. circular.

CLOTHES CLOSET FIXTURES

Knape & Vogt Mfg. Vo., Grand Rapids, Mich.
1280. *"Plans for Modern Clothes Closets,"* a blueprint folder of clothes closet plans showing the easy installation.

COAL CHUTES

The Donley Bros. Co., 13920 Miles Ave., Cleveland, Ohio.
409. *An interesting folder,* describing the advantages of the Donley Coal Chute.

Gabriel Steel Co., Bellevue Ave., Detroit, Mich.
1315. *Information and prices* gladly given. Write for them.

Majestic Co., The, Huntington, Ind.
1392. *Catalog* describing Majestic Coal Windows sent on request.

Sykes Metal Lath Co., Niles, Ohio.

COLLEGES AND SCHOOLS—See Correspondence Courses

COLUMN BASIS

Cheney, S., & Son, Manlius, N. Y.
1314. 44-*page illustrated catalog* describing in detail the "Zimmerman Patent Iron Base" for wood porch columns.

COLUMN AND BEAM COVERING

United States Gypsum Company, 205 W. Monroe St., Chicago, Ill

COLUMNS, WOOD

Hartmann-Sanders Co., Elston and Webster Aves., Chicago, Ill.
233. *Catalog No. D-47,* 48 pages, illustrated. 7¼ x 10 in. Illustrating Koll's Patent Lock-Joint Wood Columns. Price 20c.

Pacific Lumber Company of Illinois, The, 2060 McCormick Bldg., Chicago, Ill.
106. *"Construction Digest"* contains important Redwood information for Builders. Write for your copy.

COMBINATION DOOR—See Doors

COMPARTMENTS—Toilet, Shower, Dressing Room

Weis, Henry, Mfg. Co., Atchison, Kansas.
1177. *"Weisteel Metal Compartments"* are fully described in catalog No. 11. Write for it today.

COMBINATION WOODWORKERS—See Woodworking Machinery

CONCRETE APPLIANCES

Universal Cement Mold Co., No. Milwaukee, Wis.
41. *Illustrated Folder,* describing mold for building hollow concrete walls for homes, garages, barns, silos, etc.

CONCRETE BLOCK MACHINES—See Concrete Machinery

CONCRETE BRICK MACHINES—See Concrete Machinery

CONCRETE BUILDING UNIT—See Building Blocks

CONCRETE MACHINERY

Aloe, A. S., Co., 513 Olive Street, St. Louis, Mo.
1076. *"It's a Bear."* 4 pp. ill. folder, describing the "Magic" Concrete Mixer.

The American Cement Machine Co., Inc., Keokuk, Iowa.
410. *An interesting* 68-page illustrated catalog, describing the "Boss" Labor Saving Construction Machinery.

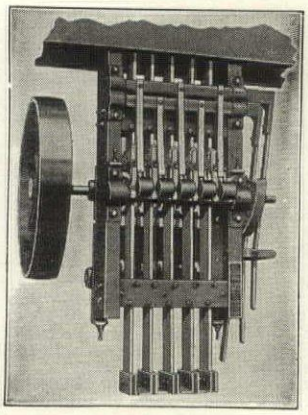
Anchor Concrete Machinery Co., Adrian, Mich.
904. *"The Anchor Line of Concrete Machinery"* is a 36-page illustrated catalog, describing their line. The keynote of the machines being their simplicity, durability and efficiency.
905. *Sixteen-page Illustrated folder,* describing the Hobbs Concrete Block Machine.
1030. *Hand Book* on Concrete Products Machinery. 64 pp. Illus.

Chain Belt Co., Milwaukee, Wis.
1311. *"Rex"* 237 describes the large mixer. *"Rex" 234* describes the half-bag size mixers. *"Rex" Filter* takes care of anything up to 25 yards of concrete.

Make up stock for SPRING NOW

Winter is half over—keep busy the remaining half. Load up your yards and you will have "first call" when the new season opens up.

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Why Tamp by Hand?

Tamp quickly, efficiently, economically with the

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and you'll never again think of tamping by hand. This high-grade, reliable and easy-to-operate tamper works over any kind or make of Block Machine. You can use it on a face-down or stripper type machine (two or three core) and your tamping will be speedy, dense, uniform.

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The accurate and attractive Ideal Molds will prove a "first aid" to you in building up this business. The Etruscan Mold is illustrated herewith—it's one of our many artistic pieces. Write for prices and circular showing other Molds.



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Atlanta, Ga.	R. D. Ballantyne, 1202 Healey Bldg.
Baltimore, Md.	John C. Louis Co., 221 S. Eutaw St.
Boston, Mass.	Waldo Bros. & Bond Co., 202 S. Hampton St.
Buffalo, N. Y.	E. B. Kelley Co., 351 East St.
Chicago, Ill.	Ideal Concrete Machinery Co., 1374 Wrigley Bldg., J. Franklin, Representative.
Cincinnati, O.	The Ideal Concrete Machinery Co., 5000 Spring Grove Ave., home office.
Cleveland, O.	J. G. Hopkins, 3171 W. 111th St.
Davenport, Iowa	Allen R. Boudinot, 302 E. Rusholme St.
Denver, Colo.	D. C. Irions, 490 S. Gilpin St.
Detroit, Mich.	O'Neal Tool & Supply Co., 150 W. Larned St.
Houston, Tex.	Albert Strouse, Box 1107, 1317 Crawford St.
Huntington, W. Va.	LaLance Equipment Co., 1213 16th St.
Indianapolis, Ind.	A. W. Knox, 306 Peoples Bank Bldg.
Kalamazoo, Mich.	Good Roads Equipment Co., 1720 Lake St.
Kansas City, Mo.	G. C. Kenney, 557 Benton Blvd.
Los Angeles, Calif.	Essick & Co., Santa Fe Avenue at 14th St.
Mexico, D. F.	F. S. Lapum, Cinco de Mayo 21.
Milwaukee, Wis.	Cannon Equipment & Supply Co., 211 Grand Ave., Room 504.
Minneapolis, Minn.	Minneapolis Equipment Co., 309-11 5th St., South.
Newark, N. J.	E. B. Kelley Co., 142 Market St.
New Orleans, La.	J. A. Abele, Box 682.
New York, N. Y.	E. B. Kelley Co., 130 W. 42nd St.
New York, N. Y.	Export office, 738-A Knickerbocker Bldg.
Oakland, Calif.	Francis H. James, Builders Exchange.
Omaha, Neb.	Interstate Machinery & Supply Co., 1006-10 Douglas St.
Philadelphia, Pa.	Lee T. Ward Co., 617 Filbert St.
Pittsburgh, Pa.	T. F. Ruane Machinery Co., Corner W. Robinson and Dasher Sts., Northside.
Portland, Ore.	Road Builders Equipment Co., 354 Belmont St.
St. Louis, Mo.	Fickelssen-Finney Equipment Co., 3603 Laclede Avenue, Grand Laclede Bldg.
Salt Lake City, Utah	Landes & Co., 246 W. Temple St.
Seattle, Wash.	Star Machinery Co.
Tampa, Fla.	J. W. Veal, 250 Hyde Park Ave.

Export Office: 738A Knickerbocker Bldg., New York City

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Selected List of Manufacturers' Literature

(*Continued from page* 198)

Concrete Equipment Co., Holland, Mich.
1201. *"Utility Concrete Equipment,"* 7¾ x 10 in., 30-page illustrated catalog, describing the various types of machines, etc.
Construction Machinery Co., 403 Vinton Street, Waterloo, Iowa.
251. *The Wonder Catalog* describes the Wonder design. Illus.
Cropp Co., B. M., 2346 W. Kenzie St., Chicago, Ill.
1299. *"Cropp Mixers"* for heavy duty. Write for illustrated catalog describing all the new "Cropp" models.
Dunn, W. E., Mfg. Co., 700 W. 23d St., Holland, Mich.
1309. *"Duntile,"* the perfected all-purpose concrete unit, offers a splendid opportunity for its manufacture.
Foote, J. B., Foundry Co., 26 Front St., Frederickstown, Ohio.
1242. *Complete Catalog* of Concrete Mixers and Concrete Block Machinery and gives a full description of the Panama Line.
Helm Brick Machine Co., 189 Mitchell St., Cadillac, Mich.
1274. *Interesting Catalog* on brick and block machines and mixers.
Ideal Concrete Machinery Co., 5012 Spring Grove Ave., Cincinnati, Ohio.
416. *A 100-page illus. catalog*, describing the Ideal Machine and also data for manufacturing and curing Ideal Concrete Blocks.
417. *Catalog No. 37* describes the Ideal-Cincinnatus Batch-Mixers.
Jaeger Machine Co., 216 Dublin Avenue, Columbus, Ohio.
418. *"Concrete Mixers"* contains 48 pages of information on the Jaeger Tilting Drum, Tip-over Water Tank, etc.
Koehring Co., Milwaukee, Wis.
46. *Koehring Construction Mixers.* Booklet. 7¼ x 10½ in. Illustrated. 96 pp. Complete information on concrete mixers.
47. *Koehring Dandie Mixer.* Booklet, 6 x 9 in. Illustrated. 24 pp. Illustrating and describing Dandie light mixers.
265. *"Built to Endure."* A beautifully bound booklet of 36 pages, 7¼ x 10 in., describing Comparative Examples of Notable Ancient and Modern Construction Embodying Permanency.
38. *Concrete, Its Manufacture and Use.* Book, 4½ x 7 in. Illustrated. 207 pp. Comprehensive discussion from the practical standpoint of concrete.
Kwik-Mix Co., Port Washington, Wis.
1333. *Write for special folder* giving specifications, weights and optional equipment.
Little Whirlwind Mixer Co., 438 Gould Street, LaCrosse, Wis.
1374. *Circular* proving the efficiency of this small mixer.
Miles Mfg. Co., The—Dept. A, Jackson, Mich.
1319. *Descriptive catalog* showing a complete line of block machines, power tampers, mixers and molds; also prices.
Ransome Concrete Machinery Co., Dunellen, N. J.
1352. *Bulletin No. 114.* A 24-page booklet describing the portability and strength of the Ransome Bantam Mixers. Illus.
1353. *Bulletin No. 115.* "Monkey-on-a-Stick," or the Ransome Concrete Tower, is built to stand long, hard usage. It is designed for economy on small jobs.
1355. *Bulletin No. 113.* Twenty-four pages of illustrations and description of paving mixers.
1356. *Bulletin No. 202.* In connection with mixer booklets, this 48-page description of chutes and equipment enables the contractor to lay out a complete plant.
1357. *Bulletin No. 105.* Pneumatic concrete mixers in a 4-page folder.
Remmel Mfg. Co., Kewaskum, Wis.
1381. *Two 4-page folders* point out the economy and convenience of the Remmel line of concrete mixers.
The Smith, T. L., Co., Milwaukee, Wis.
1200. *Bulletin No. 409-A.* A 20-page illustrated catalog, describing the sturdy construction of the Smith Simplex Mixer.
1053. *Bulletin No. 408.* A 16-page illustrated catalog, describing the Smith Excavator and Loader.
1054. *Bulletin No. 405-A.* A 48-page illustrated catalog, describing the Smith Non-Tilting Mixer.
Stewart Mfg. Co., 366 Rath St., Waterloo, Iowa.
1342. *Complete catalog* describing and illustrating the entire line.
The Willsea Works, 60 Browns Race, Rochester, N. Y.
1010. *"Hercules Concrete Block Machine."* Illus. catalog describing a machine which makes stronger blocks with less cement. Also the large variety of interchangeable plate designs.

CONCRETE SURFACER
Concrete Surfacing Machinery Co., The, 4669 Spring Grove Avenue, Cincinnati, Ohio.
1243. *"The Berg,"* a time-, labor- and money-saving device, used in the concrete industry, is well described in a booklet.

CONSTRUCTION, FIREPROOF
The General Fireproofing Company, Youngstown, Ohio.
983. *The Right Angle.* A monthly magazine of fireproof construction employing the use of metal lath, expanded metal, etc.
International Steel & Iron Co., Dept. 19, Evansville, Ind.
Milwaukee Corrugating Co., Milwaukee, Wis.
(See listing under Building Construction.)
North Western Expanded Metal Co., 1204 Old Colony Bldg., Chicago, Ill.
970. *"Fireproof Construction."* 72-page illustrated book, 6 x 9 in., of interest to the contractor, architect and builder.
972. *"Designing Data."* 6 x 9 in. 96-page illustrated book, explaining the use of "Econo" in reinforced concrete.
Truscon Steel Co., Youngstown, Ohio.
United States Gypsum Company, 205 W. Monroe St., Chicago, Ill.
49. *Bulletin*, 8½ x 11 in. Containing details and specifications for Pyrobar voids for use with reinforced concrete joist floor construction; Pyrobar roof tile and monolithic gypsum floors

COPPER—See Leaders, Flashings and Gutters
CORNER BEAD
Sykes Metal Lath Co., Niles, Ohio.

CORRESPONDENCE COURSES
International Correspondence Schools, Scranton, Pa.
1371. *Information* on any of the courses may be obtained.
Chicago Technical College, 1038 Chicago Tech. Bldg., Chicago, Ill. (See listing under "Books")

CRANES
Koehring Co., 31st & Concordia St., Milwaukee, Wis.
DADO HEAD—See Saws
DAMPERS AND ASH DUMPS (Fireplace)
The Donley Bros. Co., 13920 Miles Ave., Cleveland, Ohio.

DAMPPROOFING—See also Waterproofing
Asbestos Shingle, Slate & Sheathing Co., Ambler Pa.
426. *Send for catalog* on the advantage of the Asbestos Shingle.
Kuckro Chemical Co., 105 Hudson Street, New York.
1375. *16-page illus. booklet* describing clearly the damp-proofing qualities of the product.
National Sheet Metal Roofing Co., 339 Grand St., Jersey City, N. J.
429. *68-page book*, illustrating the "Shingles That Last."
Rocbond Co., Van Wert, Ohio.
430. *An eight-page folder*, entitled "Fortifies Your Home Against the Element of Time."
Toch Bros., 100 E. 42d Street, New York.
1192. *"Red Book."* 5¼ x 8⅛ in. 32 pp. Ill. Catalog giving an authoritative treatise on preservative and decorative paints

DECK CLOTH—See Roofing Materials
DERRICKS
Sasgen Derrick Co., 3101 W. Grand Avenue, Chicago, Ill.
1257. *Circular No. 2* describes and gives prices of the entire line.
DOMESTIC HEATING PIPE INSULATION
Johns-Manville, Inc., 41st St. and Madison Ave., New York.
1086. *"More Heat from Less Fuel."* An interesting 24-page illus. booklet describing the value of proper insulation.
DOOR CHECKS—See also Hardware
Sargent & Co., New Haven, Conn.
738. *A handy booklet* may be had on request. It describes the many benefits of the Sargent "Door Check."
DOORS
Combination Door Co., Fond du Lac, Wis.
1007. *Booklet* describing combination Storm and Screen Door.
Paine Lumber Co., Ltd., Oshkosh, Wis.
1166. *16 pp. well illustrated catalog*, describing the "Miracle Door." This is a flat door with a raised paneled effect.
Stearns, A. T., Lumber Co., 75 Taylor Street, Neponset, Boston, Mass.
1234. *"Stearns Cypress Doors."* 70 pp. illus. booklet, 4 x 9 in. illus. 65 types of doors.
Wheeler, Osgood Company, The, Tacoma, Washington.
1160. *"The Door Is Important."* An interesting booklet giving important data about doors.
1161. *"What Is Laminex?"* An interesting leaflet.
DOORS AND WINDOWS
California White & Sugar Pine Mfrs. Assn., 457 Call Bldg., San Francisco, Cal.
Crittal Casement Window Co., 10957 Hearn Ave., Detroit, Mich.
1367. *Catalog No. 2-24* illustrates the charm and utility of Crittal Casement Windows of copper-bearing steel.
Detroit Steel Products Co., 2252 E. Grand Blvd., Detroit, Mich.
1210. *Fenestra Basement Windows.* Booklet, 3⅝ x 6¼ in., 16 pages, illustrated. Describes steel basement windows, their advantages, details and specifications for installation.
1338. *Fenestra Reversible Ventilator Windows.* Booklet, 8½ x 11 in., 20 pages, illustrated. Describes the details of this new model window for attractive architecture design.
1339. *Fenestra Counter-Balanced Windows.* Catalog, 8½ x 11 in., 111 pages, illustrated. Details and specifications are thoroughly covered in the Fenestra General Catalog.
1340. *Fenestra Industrial Window Walls.* Catalog, 8½ x 11 in., 111 pages, illustrated. Details and specifications, with photographic illustrations, are covered in the Fenestra General Catalog.
Donley Bros. Co., The, 13920 Miles Ave., Cleveland, Ohio.
1335. *"Donley Steel Basement Sash"* lets in 75 per cent more daylight. 16-page illustrated booklet describing in detail the makings and workings of the Donley Basement Window.
Hope & Sons, Ltd., Henry, 103 Park Avenue, New York.
51. *Hope's Casements.* Printed circular describing steel casements of standard sizes and types carried in stock for immediate delivery.
Long Bell Lumber Co., R. A. Long Bldg., Kansas City, Mo.
David Lupton's Sons Co., Philadelphia.
1377. *"Consider the Windows,"* a 48-page illustrated booklet showing many valuable considerations about windows.
1378. *Special reference* to residence windows and Lupton Projected Sashes is made in a 16-page booklet.
1379. *Casements and Double Hung Windows* are given very interesting treatment in a 42-page illustrated catalog.
Truscon Steel Company, Youngstown, Ohio.
52. *Truscon Steel Sash.* This handbook has been prepared for detailers and specification writers. 80 pp. Illustrated.
53. *Trucson Steel Sash.* A catalog containing designing data, tables and views of Stock Sash installations. 65 pp. Ill.
The Wheeler, Osgood Co., Tacoma, Wash.
1059. *Laminex Doors, Catalog No. 31.* Doors made of Douglas Fir employing a special laminated and doweled construction. Twenty designs in vertical and flat grain veneers. Sizes and details. 44 pp. Illustrated. 3⅞ x 9¼ in.
1140. *Laminex Doors. A Book for Archiects and the Building Trade.* This book fully describes the special features of Douglas Fir Laminex and Woco Doors; strength, water and heat tests; properties of Fir; Woco garage doors and window sash. Illus.

DOOR AND WINDOW FRAMES
Andersen Lumber Company, Bayport, Minn.
55. *General Catalog* for architects, contractors, engineers, carpenters or builders. Describes and illustrates full Anderson Standard White Pine Window, Cellar Frames, Sash Frames and Door Frames.
56. *Better Frames for Less Money* for consumers. Interesting folder showing advantage of Anderson White Pine Frames.
California White & Sugar Pine Mfrs. Assn., 457 Call Bldg., San Francisco, Cal.
Pacific Lumber Company of Illinois, The, 2060 McCormick Bldg., Chicago, Ill. (See listing under "Columns.")
DOOR AND WINDOW TRIM
Milwaukee Corrugating Co., Milwaukee, Wis.
2001. *"Milcor" Expansion Door and Window Trim.* 8 pp. illus.
DOOR BEDS—See Built-In Features
DOOR STOPS—See Hardware
DRAFTING MATERIALS
Keuffel & Esser Co., Hoboken, N. J.
434. *A 486-page Bound Book.* This is the thirty-sixth edition.

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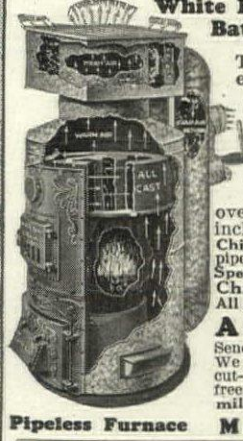


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Late design, white porcelain enameled, cast-iron drop apron lavatory, supported on concealed wall hangers; new low design, china indexed compression faucets, heavy brass, nickel-plated adjustable supply pipes and trap to floor or wall, size 17x19½ inches, weight 120 pounds.

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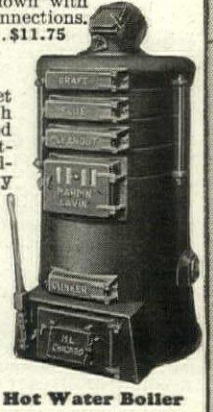
Tub is cast iron, heavy white porcelain enameled inside and over the 3¼ inch turned-over rolled rim; outside of tub is painted. This is our newest design, having a pleasing appearance and the highest grade leg tub manufactured. Fitted complete with heavy brass, nickel-plated compression bath faucet, with china indexed handles, nickel-plated heavy brass adjustable waste and overflow and supply pipes to floor; width 30¼ inches, length 4½ or 5 feet, weight 300 pounds.

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Selected List of Manufacturers' Literature

(*Continued from page* 200)

New York Blue Print Paper Co., 102 Reade Street, New York City.
(See listing under Artists' Materials.)
Peerless Blue Print Co., 347 Fifth Avenue, New York City.
Warren-Knight Company, 136 No. 12th Street, Philadelphia, Pa.
435. *Send for free sample* of "Sterling" Tracing and Detail Papers. Special prices quoted on Drafting Materials upon request.

DRAWING BOARDS—See Artists' Materials

DRAG LINES

DRAW PULLS—See Hardware

DUMBWAITERS—See Elevators and Hoists

EAVES—TROUGH
Hussey & Co., C. G., 2850 Second Avenue, Pittsburgh, Pa.

EDGE TOOLS—See also Carpenters' Tools
Mack Tool Co., Rochester, N. Y.
491. *An interesting Carpenter's Catalog* may be had on request.
Sargent & Co., 53 Water Street, New Haven, Conn.
Swan & Co., James, Seymour, Conn.
496. *An interesting 104-page catalog,* describing "Premium Mechanics' Tools."
White Co., The L. & I. J., Buffalo, N. Y.
497. *Catalog No. 19A* describes Carpenters' Tools.
498. *Catalog No. 20B* describes Coopers' Tools.

ELBOWS
Hussey & Co., C. G., 2850 Second Avenue, Pittsburgh, Pa.

ELECTRICAL EQUIPMENT
Connecticut Electric Co., Bridgeport, Conn.
607. *Extra-Life,* a black moulded two-way plug, described in a 4-page leaflet.
951. *Up-to-Date Electrical Specialties Catalog.* 3 x 4¼ in. 305 pp., illustrated. Gives sizes, weight, prices and data for sockets, receptacles, rosettes, switches, cut-outs and other wiring devices.
952. *Connecticut Electric Switch folder.* 3½ x 6½ in. 4 pp. Illustrated. Describes latest ideas in electric switch and gives list price, catalog numbers and schedules.
General Electric Co., Bridgeport, Conn.
513. *Wires and Cables.* Booklet. 8 x 10½ in. 85 pp. Illustrated. Four bulletins in a binder, describing wires and cables in general conductors insulated with vulcanized rubber compound, varnished cambric and paper insulated cables, splicing materials and junction boxes for cable installations, armored cables.
514. *Electric Fans.* Folder, 6 pp. 3¼ x 6 in. Illustrated. Describes 1922 lines of electric fans, giving catalog numbers, voltages and frequencies.
515. *Reliable Wiring Devices.* Catalog, 3 x 4⅝ in. 206 pp. Illustrated. Pocket catalog giving prices, schedule classifications and data for socket receptions, switches, rosettes, cut-outs and fuses for miscellaneous devices.
516. *Lighting of Public Buildings.* Bulletin, 6 x 9 in. 25 pp. Illustrated. Describes lighting of galleries, banks, museums, libraries, municipal, county and state buildings.
Hart & Hegeman Mfg. Co., Hartford, Conn.
1108. *H. & H.* complete offering of Convenience Outlets. 4 pp. illus. folder describing the T-Slot Shallow Type outlet.
1109. *Tumbler Switch.* 4 pp. illus. folder, describing the easiest, quietest, nicest balanced movement attained in a tumbler.
1110. *Nutmeg Reliability in a Shallow Switch.* 4 pp. illus. booklet, describing the new shallow Nutmeg with its trusted sturdiness, ease of action and long-time satisfaction.
1111. *Catalog "R."* The latest book on Wiring Devices, complete data on Shallow Switches and Shallow Receptacles, Tumbler Switches and "Gold Star" Push Switches, Heater Switches and Panel Board Switches, the new "H. & H." Sockets, Renewable Fuse Plugs, Attachment Plugs, Elexits, Wall Plates—an all-inclusive line.
Johns-Manville, Inc., 41st Street & Madison Avenue, New York.
1087. *Friction Tapes and Rubber Splicing Compounds.* A 4-page folder, describing this product.
1088. *Fibre Conduits.* 12 pp. illus. booklet, describing this product.
1089. *Electrobestos.* 16 pp. illus. booklet in full detail of the nature of this product.
Western Electric Co., New York.
1386. *Wiring devices* as planned for the home should include *an inter-communicating phone system* as a step- and time-saver. The catalog on the subject contains a great deal of interesting information for the builder.

ELECTRIC METER BOXES
The Donley Bros. Co., 13920 Miles Ave., Cleveland, Ohio.

ELEVATORS
The Brown Clutch Co., Sandusky, O.
1361. *Hoists,* a 16-page folder giving specifications and prices of assemblies and parts.
1362. Single and Double Drum hoists treated in a leaflet.
C. H. & E. Mfg. Co., 259 Mineral Street, Milwaukee, Wis.
1359. Send for recent bulletin.
Kimball Brothers Company, Council Bluffs, Iowa.
58. *Kimball Elevators.* An illustrated catalog of hand power, sidewalk and garage elevators and dumbwaiters and electric passenger, freight and push button elevators. 32 pp. Illus.
436. *30-page illustrated catalog,* describing the various models of Dumbwaiters.
Sedgwick Machine Works, 156 West 15th Street, New York.
517. *Catalog and descriptive pamphlet.* 4¼ x 8¼ in. 70 pp. Illustrated. Descriptive pamphlets on hand power freight elevators, sidewalk elevators, automobile elevators, etc.
992. *"Robbing the Stairs of Their Terror."* 3½ x 6 in. 6-page illustrated folder.

ELEVATOR DOOR EQUIPMENT
Richards-Wilcox Mfg. Co., Aurora, Ill.
59 *"Ideal" Elevator Door Equipment.* Catalog showing elevator door hangers for one, two or three speed doors, also doors in pairs and combination swing and side doors. Door closers and checks. 24 pp. Ill. 8½ x 11 in.

ENGINES
C. H. & E. Mfg. Co., 259 Mineral Street, Milwaukee, Wis.
1360. Folder on request.
Hercules Corporation, Evansville, Ind.
1154. *Complete data* will be supplied on the use and workings of the Hercules Engine. Write for it.
Novo Engine Co., Lansing, Mich.

FIREPLACE ASH DUMP—See Coal Chutes

FIRE DOORS AND SHUTTERS—See Doors and Windows

FIREPLACE FURNISHINGS
Nicholas Hardware Co., 121 Marion Street, Oak Park, Chicago, Ill.
1266. *Catalog No. 10* shows a complete line of Builders' Hardware and Carpenters' Tools.

FLAG POLES
The Pole & Tube Works, Inc., Newark, N. J.
1119. *Contains specification, data and scale drawings.* Send for important literature.

FLASHINGS
American Brass Co., Waterbury, Conn.
1346. *Copper Flashings.* A catalog of value to the contractor. Sent on request.
New Jersey Zinc Company, 160 Front Street, New York.

FLOOR HARDENERS
The General Fireproofing Company, Youngstown, Ohio.
978. *A bulletin entitled Cement and Wood Floor Preservation* describes methods for hardening, dustproofing, decorating and waterproofing cement and wood floors. 12 pp. 8½ x 11 in.
Muller Co., Franklin R., Waukegan, Ill.
1128. *Asbestos Composition Flooring.* Circular, 8½ x 11 in. Descriptions and Specifications.
Toch Bros., 110 E. 42d Street, New York. (See listing under Dampproofing.)
Truscon Laboratories, The, Detroit, Mich.
61. *Agatex and Its Performance.* Booklet. Describes the methods of hardening concrete floors by the application of a chemical which forms a new surface as hard as agate.

FLOOR MAINTENANCE
Johnson, S. C., & Son, Rachine, Wis.
1341. *4-page illustrated folder* describing the treatment and maintenance of modern floors. This booklet is especially helpful for owners of hospitals, hotels, apartments and office buildings.

FLOORING
Armstrong Cork Co., Linoleum Department, Lancaster, Pa.
1031. *Business Floors.* A handy reference on floors for public and semi-public buildings, containing directions for laying and other helpful data. Illustrated in color. 6 x 9 in.
1032. *Armstrong's Linoleum Floors.* A handbook for architects, published in the file form (8½ x 11 in.) recommended by the American Institute of Architects. A technical treatise on Linoleum containing general information, tables of grades, gauges and weights, specimen specifications and detailed directions for laying linoleum. Illustrated with color plates.
The Long-Bell Lumber Co., R. A. Long Bldg., Kansas City, Mo.
63. *The Perfect Floor.* Tells how to lay, finish and care for Oak Flooring. 16 pp. 14 illus. 5½ x 7⅝ in.
Norton Co., Worcester, Mass.
1387. *Alundum Safety Tile* for every place where a slip-proof, non-wearing floor is desired. An attractive 38-page booklet.
1388. *Specification sheets* and details of various floor construction problems.
Pacific Lumber Co., 2070 McCormick Bldg., Chicago, Ill.
438. *A 16-page treatise* on the construction Digest of Information on the Values and Uses of Redwood.
Ritter Lumber Co., W. M., Columbus, Ohio.
1287. *Ritter Oak Flooring.* 36 pp., illus. catalog, 5⅛ x 7¼ in., describing the different kinds of Oak Flooring; grading rules are quoted, suggestions given about estimating quantities required and methods of laying, scraping and finishing.
Wood-Mosaic Co., New Albany, Ind.
920. *Catalog* of wood-carpet, strips, plain and ornamental parquetry, tongue and groove flooring in natural wood colors.
968. *Wood-Mosaic Floors.* Catalog. 7 x 10 in. 36 pp. Illustrated.

FLOORING COMPOSITION
Everlasbestos Flooring Co., Rochester, N. Y.
439. *Sixteen-page ill. booklet,* describing the really modern floor.
Muller, Inc., Franklyn R., Waukegan, Ill.
519. *Asbestos Composition Flooring.* Circulars. 8½ x 11 in. Description and Specifications.
521. *Asbestos Flooring Composition.* A book describing uses of and giving specifications and directions for Composition Flooring, Base, Wainscoting, etc. 8½ x 11 in. Illustrated.
Ritestone Products Corp., Westchester Avenue & Bronx River, New York.
1194. *6 pp. folder* describing a new composition flooring which is durable, sanitary and resilient.
United States Gypsum Company, 205 W. Monroe St., Chicago, Ill
66. *Gypsum Poured, Steel Reinforced.* Loose-leaf bulletin, 8¼ x 11. Pyrofill.

FLOORING—INDUSTRIAL
Johns-Manville, Inc., 41st Street & Madison Avenue, New York.
1090. *"Flooring That's Made to Fit."* 16 pp. illustrated and descriptive booklet showing the value of this product.

FLOOR REGISTERS—See Registers

FLOOR SANDERS—See Floor Surfacing Machinery

FLOOR SURFACING MACHINERY
Amer. Floor Surfacing Machine Co., 521 So. St. Claire Street, Toledo, Ohio.
440. *An eight-page illustrated booklet,* describing the "American Universal." Also opportunities of making money in the "American Universal Way."
Campbell Machine Co., 39 Hayward Street, Wollaston, Mass.
949. *16-page illustrated catalog* describing a floor surfacing machine which sandpapers, waxes, oils and scrubs.
Chappell & Co., Wayvell, 137 No. Jackson Street, Waukegan, Ill.
441. *Four-page folder,* describing the "Little-Automatic Electric Surfacing Machine."
1157. *16-page illustrated booklet* describing Wayvell Chappell Automatic Ballbearing Electric Floor Surfacing Machine. "Get into the Floor Surfacing Business with an Automatic While the Field Is Fresh."

TRIPLE "A" SPRING-DRIVEN Floor Smoother

Any Floors to Scrape?

If so, here's a good way:



WITH SCRAPER BLADE

The fellow who said, "Experience is a good teacher," said a mouthful. Here is experience that should interest you:

A busy Gary contractor bought a Triple "A" Spring Driven Floorsmoother some time ago, and after using it on a large apartment building said, "My carpenter scraped and sanded three flats per day, and that's about three times as much as we were formerly able to do with our electric sander."

Consider the difference in cost! First cost, up-keep, cost for power and, most of all, the cost per square foot.

Then, again, there are some other points worth considering: The Triple "A" is lighter and easier to move around. It requires no electric current for its operation, and is always ready for immediate service—either in the country or in the city. It finishes the room completely—right up flush with the base on all sides. Operators, who know from experience, prefer to run the Triple "A," because it raises no dust, and runs easier.

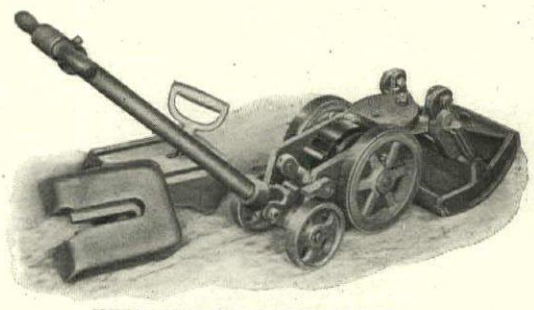
One of our busiest Chicago contractors said the other day that he was doing his floor surfacing at an average cost of less than a half (½c) cent per square foot with the Triple "A" Floorsmoother.

Do you wonder how? Consider briefly from your own experience: If you had a floor to surface by hand, how would you go about it? Wouldn't you depend on your scraper for most of the work, and then finish with sandpaper? At least, most carpenters would—and that's the way of the Triple "A."

"The Triple 'A' Way" is just an enlargement upon the old reliable way that you are familiar with, by hand. You know the principle is right. Here are some of the mechanical features of the

Triple "A" Spring Driven Floor Smoother:

—It has all of the necessary mechanical adjustments required to insure smooth and easy cutting.
—Two demountable weights to supply the required leverage for light or heavy cutting.
—A powerful Spring Motor that reduces the labor of operating to a minimum.
—A simple and efficient means for sharpening the scraper in the machine without removal.
—A Sander Attachment that works on the right principle—the rub action—that insures a finish free from waves, hollows, or cross grain scratches.
—It comes to you fully equipped with an assortment of six double edged scraper blades (of three different thicknesses), adaptable to any and all of the various classes of floor surfacing work, together with a complete set of sharpening tools—all in a small handy tool box.



WITH SANDER ATTACHMENT

Free trial—Easy terms—Full information on request

TRIPLE "A" MACHINE COMPANY

4601 E. RAVENSWOOD AVENUE **CHICAGO**

Selected List of Manufacturers' Literature

(*Continued from page 202*)

Electric Rotary Machine Co., 3825 W. Lake St., Chicago, Ill.
1156. *Write for complete information* in regard to this electric machine. It is a means of becoming independent.

Fox Supply Co., Brooklyn, Wis.

National Sanding Machine Co., 319 W. Chicago Ave., Chicago, Ill.
1350. *Sixteen-page catalog* describing a super floor surfacing machine. Explains five-day trial and five-year guarantee policy. Illustrations of various sized machines, roller and motor.
921. *The Lightning Electric Floor Surfacer* is described in a 4-page circular. The illustrations show the floor surface, the gears and the sand roller. There are 28 features built in the "Lightning."

Schlueter, M. L., 223 W. Illinois Street, Chicago, Ill.
442. *"The Lincoln"*—whirlwind twin disc floor surfacing machine. Small sizes for home use. It waxes, polishes, refinishes, sandpapers and surfaces wood, stone, tile and composition floors.
1337. *"The Improved Schlueter"* is described and illustrated in a 4-page folder. Many time and labor saving reasons are given for its purchase.

Triple "A" Machine Co., 4605 E. Ravenswood Ave., Chicago, Ill.
1256. *Illustrated booklet* describing this combination scraper and sanding machine.

FLOOR VOIDS FOR USE IN CONCRETE

United States Gypsum Company, 205 W. Monroe St., Chicago, Ill.
67. *Loose-leaf Bulletins.* 8½ x 11 in. Pyrobar Gypsum Floor Tile.

FROST PREVENTIVE

The General Fireproofing Co., Youngstown, Ohio.
984. *The Contractor's Friend.* A bulletin describing the use of GF Cement Accelerator as a combined accelerator, anti-freeze, hardener and floor tint.

Toch Bros., 110 E. 42d Street, New York. (See listing under Dampproofing.)

FURNACES—See Heating Equipment

GARBAGE DESTROYERS

Kerner Incinerator Company, 1027 Chestnut St., Milwaukee, Wis.
68. *The Sanitary Elimination of Household Waste.* M-3 Folder. Description of construction, installation and operation of the Kernerator for residences. Illustrated.

GARBAGE RECEIVERS

The Donley Bros. Co., 13920 Miles Ave., Cleveland, Ohio.

GAS PRODUCER

American Heating & Lighting Co., Morenci, Mich.
1223. *The "Clark Gas Producer"* is a machine described and illustrated in a booklet. This is ideal for suburban property. Also for heat treating steel and tempering. Write for the booklet.

GAS RANGES—See Ranges

GAS RANGE PARTS

American Stove Co., Lorain, Ohio.
990. *Catalog No.* 116. 6 x 9 in. 60 pp. Giving a complete list of Gas Stove Parts and their cost.

GLASS

American Window Glass Co., Pittsburgh, Pa.
69. *Send for circular* describing different varieties of window glass and how to select the proper kind.

American Three-Way Luxfer Prism Co., Cicero, Chicago, Ill., also 358 Webster Ave., Astoria, N. Y.
70. *Write* for details and prices of glass prisms that will project daylight into dark interiors.
71. *Other literature* with reference to apartment house installations.

Mississippi Wire Glass Co., New York City.
1344. 36-*page catalog* summarizes the line of Mississippi Wire Glass for industrial and commercial use.
1345. *"Factrolite"* is a leaflet dealing with the advantages of factrolite glass in industrial plants.

Pittsburgh Plate Glass Co., Pittsburgh, Pa.
1282. *"Tapestry Glass."* Illustrated catalog, showing the beauty and durability of this product.

Plate Glass Mfrs. of America, 1st Nat'l Bank Bldg., Pittsburgh, Pa.
1129. *Plate Glass.* Booklet. 5¾ x 9¼ in. 12 pp. Describes manufacture and use of plate glass, with sizes.
1230. *"The Age of Plate Glass."* 20 pp. illus. booklet, 5½ x 6¾ in., describing the process of manufacturing plate glass.

GRILLES

American Radiator Co., 104 West 42d Street, New York
1349. *Information on request.*

Auer Register Co., The, Cleveland, Ohio.
1317. *Catalog.* Types of grilles for radiator enclosures.

Buffalo Wire Works Co., Inc., 322 Terrace Street, Buffalo, N. Y.
818. *Descriptive folder* describing grilles for windows, radiators, teller's cages, floor railings, etc.

The Hart & Cooley Company, New Britain, Conn.
747. 24-*page illustrated catalog* describes the line of grilles manufactured by this company.

Meyers, Fred J., Mfg. Co., Hamilton, Ohio.

Tuttle & Bailey Mfg. Co., 2 W. 45th Street, New York.
1152. *Catalog No.* 78 *and Special Booklet on Grilles.* Cast Ferrocraft Grilles in plain lattice or choice of 500 special designs. Also cast in bronze and brass, and stamped steel grilles.

GRINDING MACHINERY

Huther Bros. Saw & Mfg. Co., Inc., Rochester, N. Y.
948. 2-*page leaflet* describing the new grinding attachment.

GUARDS, MACHINE

North Western Expanded Metal Co., 1204 Old Colony Bldg., Chicago, Ill.
974. *"Practical Machine Guards."* 3½ x 6¾ in. 36-page illus. catalog, showing the application of "Econo" mesh.

GUARDS, WINDOW & DOOR

Buffalo Wire Works Co., Inc., 322 Terrace Street, Buffalo, N. Y.

Meyers, Fred J., Mfg. Co., Hamilton, Ohio.

GUTTERS

Milwaukee Corrugating Co., Milwaukee, Wis.
2002. *"Milcor" Rain Carrying Equipment.* 8 pp. illus. folder.

New Jersey Zinc Co., 160 Front Street, New York.
1033. *"Once in a Lifetime."* Booklet containing information about downspouts and gutters made from "Horse Head" zinc.

GYPSUM

United States Gypsum Company, 205 W. Monroe Street, Chicago, Illinois.

HANGERS—DOOR—See Hardware

HARDWARE

Cheney, S., & Son, Manlius, N. Y.
1314. *Price list and catalog* of 44 pages listing and describing a splendid line of hardware, staves and specialties.

Griffin Mfg. Co., Erie, Pa.
447. *"Hinges,"* a 75-page illustrated, cloth-bound book.

Ives Co., H. B., New Haven, Conn.
448. *Write for their illustrated folder,* describing hardware, window and door specialties.

The Kawneer Co., Niles, Mich.
72. *Kawneer, Simplex Window Fixtures.* Booklet, illustrated. Drawings, photographs and text describes weightless, reversible window fixtures, its ease of installation, ventilation and light control. Size 8½ x 10¾ in. 16 pp.

Myers & Bros. Co., F. E., Ashland, Ohio.
450. *Catalog,* describing the No. 30 Simplex Garage Door Hanger.

National Brass Co., Grand Rapids, Mich.
1169. *"Dexter Locks and Latches"* are fully described in a circular showing the construction, beauty and durability of this brass hardware.

National Mfg. Co., Sterling, Ill.
404. *An interesting illustrated catalog* on "Garage Hardware."
743. *"Ornamental Ideas."* 5¼ x 7 in. 28-page illustrated booklet describing the practicability, time and labor-saving features of the National "Ornamental Butts."

Nicholas Hardware Co., 121 Marion Street, Oak Park, Chicago, Ill.
1266. *Catalog No.* 10 shows a complete line of Builders' Hardware and Carpenters' Tools.

Pullman Mfg. Co., Rochester, N. Y.
602. *Pullman Unit Sash Balances.* The Pullman Unit Sash Balance is a coiled spring in a housing that replaces weights and cords. This book tells why it costs less on nearly all installations, why it is better in all respects, and gives a list of important buildings in which this balance is in satisfactory use. Contains blue print sheet of details. 12 pp. 8 x 11 in.

Richards-Wilcox Mfg. Co., Aurora, Ill.
75. *Modern Hardware for Your Home.* Catalog of hangers for vanishing French doors; "Air-Way" multifold hardware for sun parlors and sleeping porches; Slidetite garage door hardware. 24 pp. Illustrated. 8½ x 11 in.
603. *Distinctive Garage Door Hardware Catalog No. A-22.* This is more than a catalog. It is a treatise for architects and builders on the door equipment of garages, covering sliding, folding and combination sliding and folding doors, with their hardware. 94 pp. Ill. 8½ x 11 in.
604. *Sliding Door Hardware, Catalog No. A-17.* A catalog of sliding door hardware of Parallel, Accordion and Flush Door partitions. 32 pp. Ill., 7 x 10 in.

Sargent & Company, New Haven, Conn.
1131. *Details to Which Standard Hardware Can Be Applied.* Booklet. 6 pp. 9 x 12 in. Illustrated. Treats with diagrams, portions of doors and windows to which hardware can be applied.

HEATING EQUIPMENT—See also Ranges

American Radiator Co., 104 West 42d Street, New York.
998. *"Ideal Type of Heat Machines."* 6 x 8⅜ in. 48-page illustrated book, explaining in detail the excellent appearance, compactness, insulation, durability and easy running features of this furnace.
1003. *Idel-Arcola Heating Outfits.* 5⅜ x 8¼ in. 30-page illustrated booklet, describing a hot water heating outfit for small homes.
1004. *"Corto."* 5¼ x 8¾ in. 16-page illustrated booklet, describing the Radiator Classic.

Andrews Heating Co., 2001 Heating Bldg., Minneapolis, Minn.
1328. *Write for agency offer and catalog* on all kinds of heating, sewage disposal, water supply and plumbing.

Bovee Furnace Works, 60 W. 8th St., Waterloo, Iowa.
1227. *Illus.* Price list describing the various styles and prices. Simplifies the task of computing the cost of the heating plant in the ordinary house or bungalow.

Burnham Boiler Corp., Irvington, N. Y.
1158. *"Happy Solution Book."* A catalog giving many interesting heating angles and facts.

Cheney, S., & Son, Manlius, N. Y.
1314. 44-*page catalog* describing the Kernan Globe Stove, Orion-Tailor and Laundry Stove and China-Tailor.

Hardin-Lavin Co., 4538 Cottage Grove Avenue, Chicago, Ill.
455. *Handy-Man Book,* or Plumbing and Heating Encyclopedia. Price 50c. 4⅞ x 6¾ in. 240 pp. illustrated.

The Hart & Cooley Co., Inc., New Britain, Conn.
748. *H & C Wrought Steel Grilles.* A new type of ventilating grille permitting passage of air. Also plain square mesh grilles made of steel, bronze and brass. Details and specifications. 4 pages. Illustrated. 8½ x 11 in.

Hess Warming & Ventilating Co., 1205D Tacoma Building, Chicago, Ill.
82. *Modern Furnace Heating.* Catalog, 6 x 9 in. 48 pp. Illustrated. Complete information on hot-air furnace heating useful to the architect and contractor.

Holland Furnace Company, Holland, Mich.
1159. *"The Whole House Comfortable and Clean."* A booklet describing an efficient heating system backed up by a corps of heating specialists.

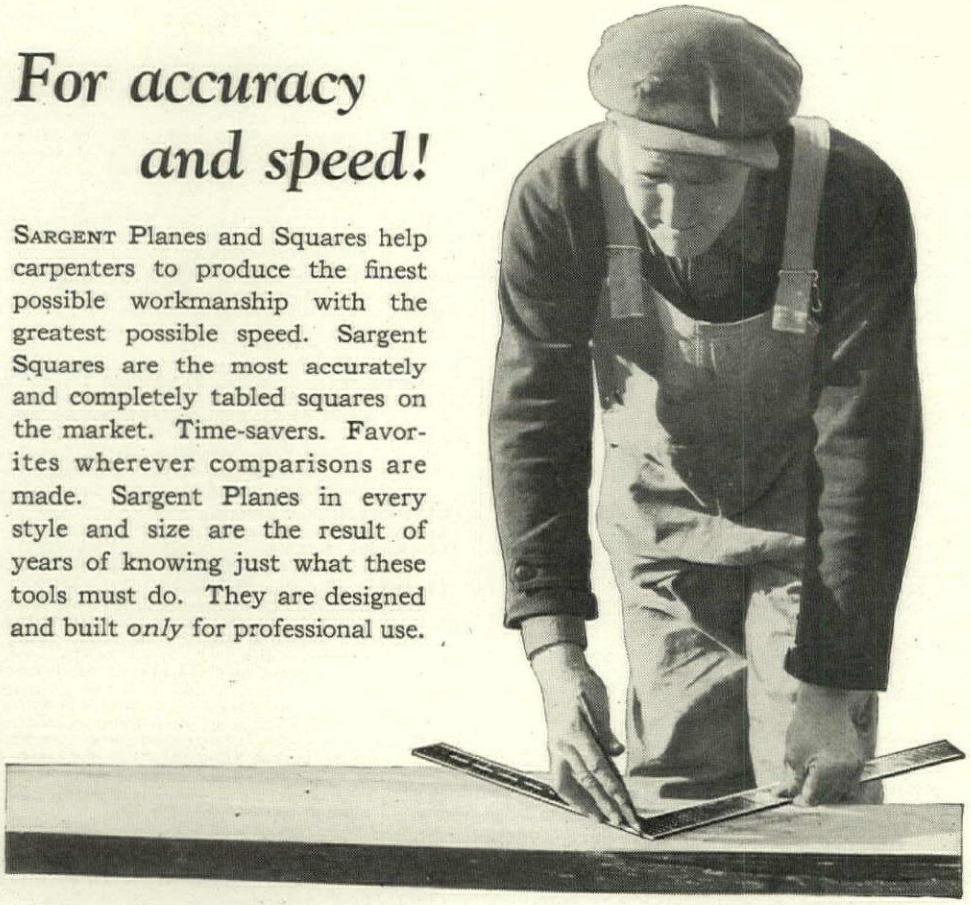
Molby Boiler Co., Lansdale, Pa.
1162. *"There's no heating boiler like the new Molby."* 24 pp., 4 x 9 in., illus. catalog. Photographs of the Molby from every angle, giving sizes, capacities, dimensions and prices.

Thatcher Furnace Co., 39 St. Francis Street, Newark, N. J.
1176. *"Your Warm Friend."* A well illus. descriptive catalog describing the construction of the Thatcher Furnace, the reduction of coal bills and the even distribution of heat.

SARGENT PLANES AND SQUARES

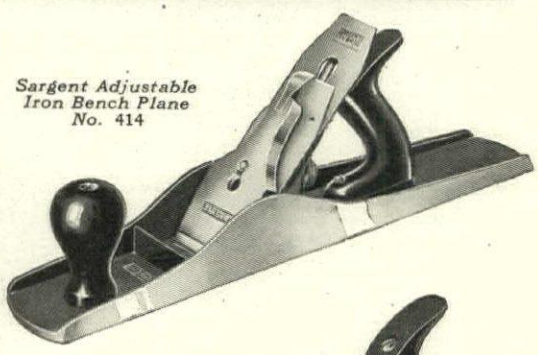
For accuracy and speed!

SARGENT Planes and Squares help carpenters to produce the finest possible workmanship with the greatest possible speed. Sargent Squares are the most accurately and completely tabled squares on the market. Time-savers. Favorites wherever comparisons are made. Sargent Planes in every style and size are the result of years of knowing just what these tools must do. They are designed and built *only* for professional use.

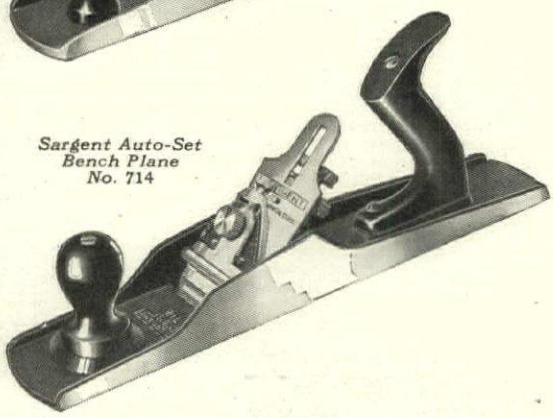


In every Sargent Plane the cutter is of chromium steel—remarkably durable, keen and edge-holding. The cutters are rigid under any cutting condition. The Adjustable Iron Bench Plane is an old favorite which has no superior. The Auto-Set Bench Plane, while a development of recent years, is known and used by crack carpenters in shops and out on building operations the country over. The Auto-Set feature permits the cutter to be removed, sharpened and replaced in a jiffy without changing original adjustment. See Sargent Planes and Squares at your dealer's and write us for descriptive booklets.

Sargent Adjustable Iron Bench Plane No. 414



Sargent Auto-Set Bench Plane No. 714



SARGENT & COMPANY
Manufacturers
52 Water Street New Haven, Conn.

SARGENT
Tools & Hardware

Selected List of Manufacturers' Literature

(Continued from page 204)

Tuttle & Bailey Mfg. Co., 2 West 45th Street, New York, N. Y.
United States Radiator Corp., Detroit, Mich.
1025. *Capital Boilers, Square Type.* 28 pp. Illus. catalog, 4 x 7⅛ in.
1026. *Capitol Boilers, Winchester Type.* 24 pp. Illus. catalog 4 x 7⅛ in.
1027. *Capitol Smokeless Boilers.* 24 pp. Illus. catalog 6⅞ x 9 in. describing a boiler which burns bituminous coal without smoke.
1028. *A Modern Housewarming.* 36 pp. Illus. catalog 6 x 8 in. describing the many beneficial features of the Triton Radiator.

HINGES AND BUTTS—See Hardware

HOISTS—See Elevators

HOUSE MOVING
La Plant-Choate Co., Cedar Rapids, Iowa.
510. *Descriptive Catalog of House-moving Appliances.*

INCINERATORS—See Garbage Destroyers
INSULATION—See Stucco Bases
Bishopric Mfg. Company, 103 Este Avenue, Cincinnati, Ohio.
92. *Homes Built on the Wisdom of Ages.* Catalog, 6 x 9 in. 48 pp. Illustrated. Describing the use of Bishopric Stucco-Board and Bishopric Sheathing Board.
Cabot, Inc., Samuel, 141 Milk Street, Boston, Mass.
249. *Cabot's Quilt.* Catalog containing drawings and descriptions.
Johns-Manville, Inc., 41st Street & Marison Avenue, New York
1091. *Insulating Materials.* 22 pp. illus. booklet, describing the various insulating materials and their prices.
U. S. Mineral Wool Co., 280 Madison Avenue, New York, N. Y.
94. *The use of Mineral Wool in Architecture.* Illustrated booklet on properties of insulation against heat, frost, sound and as fireproofing, with action drawings and specifications for use. It gives rule for estimate and cost. Size 5¼ x 6⅜ in.

IRONING BOARDS—See Built-In Features
JOISTS AND STUDS, PRESSED STEEL
General Fireproofing Co., Youngstown, Ohio.
953. *GF Steel Lumber.* Describes the use of steel joists and studs for floors and partitions in apartments, hotels, school buildings, etc. 8½ x 11 in. 12 pp.
North Western Expanded Metal Co., 1204 Old Colony Bldg., Chicago, Ill.
Truscon Steel Company, Youngstown, Ohio.
95. *Truscon Steel Joists.* Catalog 8½ x 11 in. 24 pp. Illustrated. Information on Pressed Steel Beams and Joists for light occupancy buildings. Tables, specifications and views of installation.

KITCHEN CABINETS—See Built-In Features
KITCHEN RANGES—See Ranges
LADDER BRACKETS—See Brackets, Ladder
LATH, EXPANDED METAL, WIRE AND WOOD
The Bishopric Mfg. Co., 17 Este Avenue, Cincinnati, Ohio.
Buffalo Wire Works Co., Inc., 322 Terrace Street, Buffalo, N. Y.
815. *Pocket edition,* Catalog No. 8. 180 pages, with flexible covers. Describes the entire line in two sections. Section No. 1 deals with wire cloth, plain and figured. Section No. 2 with ornamental iron and wire work.
816. *Sixteen-page illustrated folder describing* Plain and Galvanized Wire Lathing, showing faces of mortar.
California White & Sugar Pine Mfg. Assn., 457 Call Bldg., San Francisco, Cal.
General Fireproofing Co., Youngstown, Ohio.
97. *Catalog* describes Herringbone Rigid Metal Lath, how it is applied and used, with detailed drawings, specifications, etc.
Milwaukee Corrugating Co., Milwaukee, Wis.
1343. *"Milcar Manual,"* 80-page illustrated catalog giving complete data on Metal Lath, Corner Bend, etc.
North Western Expanded Metal Co., 1204 Old Colony Bldg., Chicago, Ill.
971. *"Specifications for Metal Lath Construction."* Illustrated catalog, 7¾ x 10¾ in. Of assistance to the architect in specifying metal lath for various types of construction.
Sykes Metal Lath Co., Niles, Ohio.
1334. *Splendid catalog* describing better building specialties.
Truscon Steel Co., Youngstown, Ohio.
99. *Hy-Rib and Metal Lath.* 18th Edition. Catalog 8½ x 11 in. 64 pp. Illustrated. Gives properties of laths, specifications, special uses and views of installation.
Wickwire Spencer Steel Corp., Worcester, Mass.

LEADERS, FLASHINGS AND GUTTERS
Hussey & Co., C. G., 2850 2d Avenue, Pittsburgh, Pa.
New Jersey Zinc Co., 160 Front Street, New York.
1351. *Write for information.*

LEVELS AND TRANSITS
Aloe, A. S., Co., 532 Olive Street, St. Louis, Mo.
524. *Advantages of "Direct-by-Mail" Buying.* 116 pp. illus. catalog describing the entire line of levels, transits, engineers' supplies, etc., including prices and discount sheet.
American Blue Print Paper Co., 445 Plymouth Court, Chicago, Ill.
1269. *Catalogs* free on request describing the "Simplex" Convertible Level.
Beckmann, L. Co., The, 100 Adams Street, Toledo, Ohio.
1260. *Just mention Catalog No. GN-8* and full particulars will be mailed you.
Geier & Bluhm, 668 River Street, Troy, N. Y.
1284. *Circular "C"* describes a splendid Convertible Level and Transit Combined. Instructions for its use are sent with every instrument.
1231. *G. & B. Jr. Convertible Level* accurately described and illus.
Keuffel & Esser Co., Hoboken, N. J.
Kolesch & Co., 138 Fulton Street, New York.
1272. *Full particulars upon request.*
New York Blue Print Paper Co., 102 Reade Street, New York.
1035. *Catalog,* describing the entire line, may be had on request.
1336. *"Repairing,"* 4-page illustrated booklet telling why levels and and transits may safely be intrusted to us for repairs.
Peerless Blue Print Co., 341 Fifth Avenue, New York.
1294. *Send for 386-page catalog* on coated paper, profusely illustrated, giving full details of everything an architect, draftsman and builder requires in the way of supplies.
Stevens, E. A., Box 32, Newton Falls, Ohio.
1265. *Circular* describing the genuine "Stevens" line levels.
Warren-Knight Co., 136 N. 12th Street, Philadelphia, Pa.
100. *"Sterling" Levels and Transit.* 32 pp. Illustrated catalog. Descriptions, specifications and structural advantages, required in modern practice for establishing lines, levels, angles, etc. Pocket note book containing full instructions and illustrations for modern practice in leveling sent free on request.
White Co., David, 907 Chestnut Street, Milwaukee, Wis.
464. *Catalog A,* "White's Improved Instruments," is a 36-page booklet with a hard cover and illustrated.
1196. *"White's Improved Convertible Levels."* 16 pp. illustrated catalog telling how to use this level.
Wissler Instrument Co., 609 N. Broadway, St. Louis, Mo.
1164. *Write for our complete booklet* describing our convertible levels. Prices included.

LIGHTING—See also Electrical Equipment
American 3 Way-Luxfer Prism Co., 1309 So. 55th Street, Cicero, Chicago, Ill.; 358 Webster Avenue, Long Island City, N. Y.
98. *Descriptive Circular* on the use of prisms for directing light to dark corners.

LIGHTNING RODS
Washburne Co., E. G., 207 Fulton Street, New York.
232. *Descriptive Catalog in Colors.* Showing different designs of weather vanes, lightning rods, ventilators, etc.

LIME
Kelley Island Lime & Transport Co., Cleveland, Ohio.
813. *Write* for this instructive and illustrated catalog describing Tiger Finish—the lime which "spreads like warm butter."

LINOLEUM—See Flooring
LOCKS—See Hardware.
LOCKERS, STEEL
Hart & Hutchinson Co., New Britain, Conn.

LUMBER—See also Woodwork
Arkansas Soft Pine Bureau, 151 Boyle Bldg., Little Rock, Ark.
1332. *Interesting and instructive booklet* on request.
California White & Sugar Pine Mfrs. Assn., 457 Call Bldg., San Francisco, Cal.
1302. *An attractive and substantial "Lumber Data Filing Folder"* (which fits the standard letter files), together with a series of "Information Sheets" on California White Pine and California Sugar Pine is being distributed to contractors and architects upon request. Additional Information Sheets are compiled and will be mailed from time to time, each of them of standard size to fit the Filing Folder.
1303. *"Pine Homes,"* handsomely illustrated with sketches and halftones, containing specific information as to the grades of lumber recommended by this association for various types of construction. It also describes the qualities and uses for California White and Sugar Pine in various parts of the house.
Long-Bell Lmber Co., R. A. Long Building, Kansas City, Mo.
104. *The Post Everlasting. Booklet.* 10½ x 7½ in. 32 pp. Illustrated. Information regarding creosoted yellow pine fence-posts, barn poles, paving blocks, etc.
228. *Poles That Resist Decay.* Booklet, 9¼ x 4 in. 16 pp. Illustrated. Poles for telegraph, telephone, high power transmission lines.
Pacific Lumber Company of Illinois, The, 2600 McCormick Bldg., Chicago, Ill.
106. *Construction Digest.* Redwood Homes Book.
Southern Cypress Mfgs. Assn., New Orleans, La.
Stearns, A. T. Lumber Co., 87 Taylor Street, Neponset, Boston, Mass.
1232. *Catalog L.* 80 pp., 9⅛ x 12⅛ in., beautifully illus. book describing and illustrating by working drawings mantels, columns, doors, sash windows, blinds, glazing, all kinds of wooden tanks, greenhouse material and hotbed sash.
Western Pine Mfrs. Assoc., Portland, Ore.
1385. *"The Pondosa Story"* tells about our Western Pine. An interesting treatment of lumber and the development of the industry. Sent on request.

LUMBER ASBESTOS
Asbestos Shingle, Slate & Sheathing Co., Ambler, Pa.
108. *Ambler Asbestos Building Lumber.* Catalog illustrated. Describes uses of this fireproof product for both exteriors and interiors. Tables of sizes and illustrations of various types of buildings in which it has been used. Size 8½ x 11 in.
Johns-Manville, Inc., 41st Street & Madison Avenue, New York.
1082. *"Asbestos Wood"* for electrical insulation and fireproof construction. 28 pp. illus. and descriptive booklet.

MAILING LISTS
Ross-Gould, 10th & Olive Streets, St. Louis, Mo.

MARKING DEVICES—(See also Branding Irons.)
Swisher, R. D., Mfg. Co., 411 So. Clinton Street, Chicago, Ill.
1248. *B-3,* an illus. folder, lists dozens of items you constantly use. These can all be marked either by burning brands, stencils and the like.

MEDICINE CABINETS—See Cabinets, Medicine
METAL LATHS—See Lath, Expanded Metal, Wire and Wood
METALS AND METAL BUILDING SPECIALTIES
American Sheet & Tin Plate Co., Frick Building, Pittsburgh, Pa.
111. *Reference Book. Pocket Edition.* 2½ x 4½ in. 168 pp. Illustrated. Covers the complete line of Sheet and Tin Mill Products.
113. *Apollo and Apollo-Keystone Galvanized Sheets.* Catalog, 8½ x 11 in. 20 pp. Illustrated.
114. *Research in the Corrosion Resistance of Copper Steel.* Booklet, 8½ x 11 in. 24 pp. Illustrated. Technical information on results of atmospheric corrosion tests of various sheets under actual weather conditions.
115. *Facts Simply and Briefly Told. Booklet.* 8½ x 11 in. 16 pp. Illustrated. Non-technical statements, relating to Keystone Copper Steel.

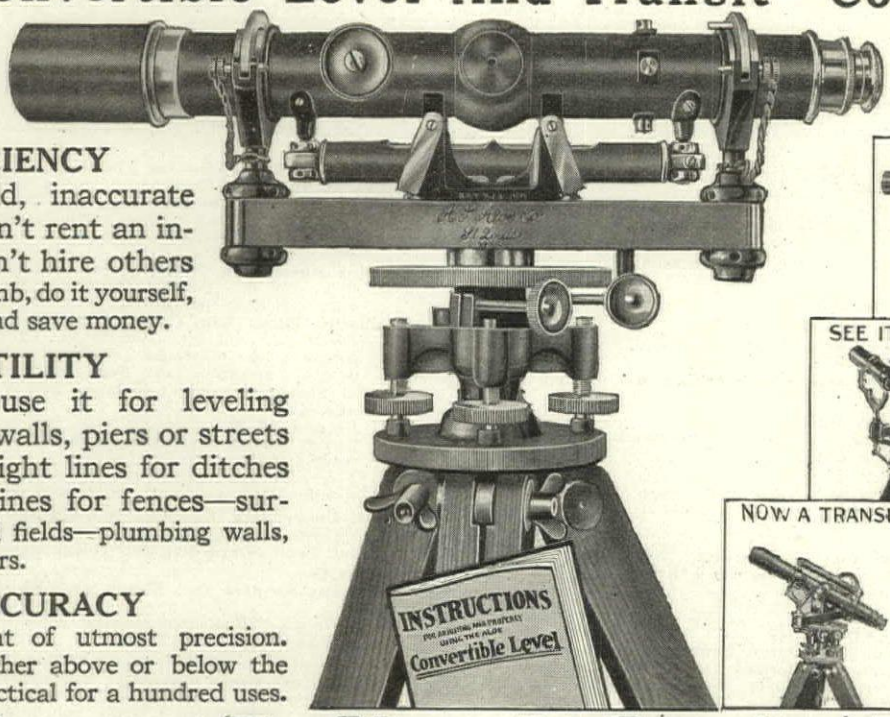
Level and Plumb Better and Quicker
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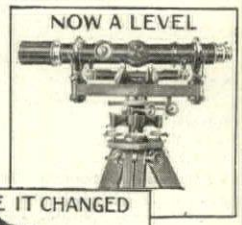
$5.00 Brings it to you

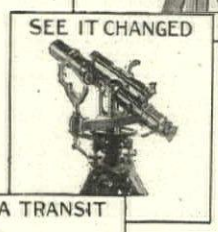
This instrument will add immeasurably to your efficiency and put you in the big builder class—will do more to increase your business, income and prestige than any investment you ever made. The Aloe Convertible Level is the world's best—a combination of both level and transit and quickly converted to either. Very accurate—satisfies the most exacting—yet so simple that anyone can use it.

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Without obligation, send me your FREE book, "Be A Bigger Builder." Also full particulars about the Aloe Convertible Level and details of your easy payment plan.

Name _____

Address _____

Selected List of Manufacturers' Literature

(*Continued from page 206*)

116. *Black Sheets and Special Sheets.* Catalog, 8½ x 11 in. 16 pp. Illustrated. Describes standard grades of Black and Uncoated Sheets, together with weights, building tables, etc. Bright Tin Plate. Catalog, 8½ x 11 in. 16 pp.

Bridgeport Brass Company, Bridgeport, Conn.

525. *Seven Centuries of Brass Making.* Booklet, 10½ x 8 in. 78 pages. Illustrated in color. A brief history of the ancient art of Brass Making and its early (and even recent) method of production—contrasted with that of the Electric Furnace Process—a twentieth century achievement of the Bridgeport Brass Company.

526. *Tested High Speed Brass Rod.* Booklet, 10½ x 8 in. 16 pages. Illustrated. Short treatise on the manufacture of Brass Rod for use in Screw Machines, with particular reference to improvements originated by the Bridgeport Brass Company.

The Donley Bros. Co., 13920 Miles Avenue, Cleveland, Ohio.

237. 28-*page Illustrated Catalog* on "Donley Devices and Building Specialties." 6 x 9 in.

METAL TRIM—See Doors and Windows

MILLWORK

Arkansas Soft Pine Bureau, 151 Boyle Bldg., Little Rock, Ark.
California White & Sugar Pine Mfrs. Assn., 457 Call Building, San Francisco, Cal.

Morgan Sash & Door Co., Chicago, Ill.

1286. *"Building with Assurance."* 440 page illus. catalog, showing attractive bungalows and houses in colors, with floor plans. Hints as to room arrangement, interior decorating, floor coverings, lighting, heating, plumbing and landscaping are also included.

Stearns, A. T., Lumber Co., 75 Taylor St., Neponset, Boston, Mass.

1233. *"Cypress Lumber and Its Uses."* 48 pp. illus. booklet, 4¼ x 9 in., describing the uses of Cypress for exterior and interior work, cabinet work, gutters and conductors, shingles, clapboarding, columns, etc.

MINERAL WOOL

U. S. Mineral Wool Co., 280 Madison Avenue, New York.

MIRRORS

Hess Warming & Ventilating Co., 1201 Tacoma Bldg., Chicago, Illinois.

MIXERS—See Concrete Machinery

MODELS—CARDBOARD HOUSE

Architectural House Planning Service Co., No. 20 South 18th Street, Philadelphia, Pa.

MORTISING MACHINERY—See Woodworking Machinery

MORTAR BOARDS

Ashland Products Co., Ashland, Ohio.

1322. *All-steel mortar board,* 30" x 30" top and stands 5" high. Inquiries promptly attended to.

NAILS, COPPER

Hussey & Co., C. G., 2850 2d Avenue, Pittsburgh, Pa.

OAK FLOORING—See Flooring

OIL CLOTH

Standard Textiles Prod. Co., 320 Broadway, New York.

1207. *A modern sanitary wall covering.* Write for samples and suggestions.

OIL RANGES—See Ranges

ORNAMENTAL IRON AND BRASS

The American Brass Co., Waterbury, Conn.

1290. *Illustrated Pamphlets.* Describes the use and adaptability of Extruded Architectural Shapes, Benedict Nickel, Brass and Copper Pipe in Iron Pipe sizes for plumbing installations. 8½ x 11 in.

Dow Co., The, 302 N. Buchanan Street, Louisville, Ky.

1263. *Estimates furnished* for all types of ornamental and miscellaneous iron for buildings.

ORNAMENTS—ELECTRICAL

Jewel Electric & Mfg. Co., 4505 Ravenswood Avenue, Chicago, Ill.

1271. 12-*page illustrated and descriptive booklet* of the Jewel portable illuminated electric fountains.

PACKAGE RECEIVERS

The Donley Bros Co., 13920 Miles Avenue, Cleveland, Ohio.

PAINTS, STAINS, VARNISHES AND WOOD FINISHES

Cabot, Inc., Samuel, Mfg. Chemists, 141 Milk Street, Boston, Mass.

534. *Cabot's Creosote Stains.* Descriptions of a standard stain for shingles, siding, boarding and timbers, with covering capacity and specifications. 16 pp. 4 x 8½ in.

Clinton Metallic Paint Co., Clinton, N. Y.

1366. *Booklets* on mortar colors and stucco colors are obtainable in interesting and attractive form.

The General Fireproofing Company, Youngstown, Ohio.

979. *Technical Paints and Coatings.* A bulletin describing methods and materials for rendering walls, floors and containers proof against acids and oils, for protecting structural steel and galvanized surfaces from rust, and timbers from dry rot and decay. 12 pp. 8½ x 11 in.

The Glidden Company, Cleveland, Ohio.

1065. *"Architectural Specifications."* 8 x 10½ in. 32 pp. Complete specifications and general instructions for the Glidden line of Paints, Stains, Varnishes, Enamels, including complete Specifications.

1066. *"More Daylight."* 8 x 10½ in. 20 pages. Portraying by illustrations and text the need and method of modern mill painting.

Johnson & Sons, S. C., Racine, Wis.

122. *The Proper Treatment for Floors, Woodwork and Furniture.* Booklet. 6¼ x 8⅜ in. 32 pp. Illustrated in color. A treatise on finishing hard and soft wood in stained and enameled effect; also natural wood effects.

123. *Portfolio of Wood Panels.* 5½ x 10¾ in. 14 pp. Containing actual panels of finished woods. Also contains valuable information on finishing and re-finishing floors and woodwork.

The New Jersey Zinc Co., 160 Front Street, New York, N. Y.

1036. *"Mapaz Handbook."* Book containing useful information regarding paint and painting, having especially to do with Mapaz No. 1, pure zinc oxide ground in refined linseed oil. A number of blank pages for memoranda are included.

1184. *Zinc as a Paint.* Pamphlet containing a number of illus. explaining the use of Zinc Oxide in paint.

1295. "40-40-20," *booklet* describing a new first grade exterior paint made from "Albalith" and "XX" Zinc Oxide in accordance with the recommended so-called 40-40-20 formula.

The Ripolin Company, Cleveland, Ohio.

1068. *"Ripolin Specification Book."* 8 x 10¼ in. 12 pages. Complete specifications and general instructions for each application of Ripolin, the original Holland Enamel Paint. Also directions for proper finishing of wood, metal, plaster, concrete, brick and other surfaces.

1067. *"Why Ripolin Has an International Reputation."* 8 x 10¾ in. 24 pages. Designed for the architect's files to illustrate the many varied uses of Ripolin Enamel paint in all parts of the world. Profusely illustrated.

Toch Bros., 110 E. 42d Street, New York.

1193. *Specifications.* 8¼ x 16¾ in. 60 pp. illustrated catalog giving specifications for dampproofing, waterproofing, enameling and technical painting.

Truscon Laboratories, The, Cor. Caniff Avenue and Grand Trunk R. R., Detroit, Mich.

1208. *Spread of Sunshine Inside. Booklet,* 5 x 8 in. 244 pp. Describes methods for light saving by the application of light reflecting enamels to interior walls of factories.

PANELS, WOOD

American Plywood Corp., New London, Wis.

1292. *Plywood-Stock* list gives general information. Panels used for cupboards, built-in work, wainscoat and paneling entire room.

PARQUET FLOORING—See Flooring

PARTITIONS

The General Fireproofing Company, Youngstown, Ohio.

985. *The Trussit Book.* Gives methods, details and specifications for the construction of two-inch solid partitions. 16 pp. 8½ x 11 in.

Hart & Hutchinson, New Britain, Conn.

284. *Write for this Catalog,* describing the sanitary and durable usages of these partitions.

Richards-Wilcox Mfg. Co., Aurora, Ill.

529. *Partitions. Booklet.* 7 x 10 in. 32 pp. Illustrated. Shows complete line of tracks and hangers for all styles of sliding, parallel, accordion and flush door partitions.

United States Gypsum Company, 205 W. Monroe Street, Chicago, Ill.

133. *Loose Leaf Bulletins,* 8½ x 11 in. Jester-Sackett consists of plaster board applied to metal channels with special clip, ready for plastering.

134. *Fireproof.* 32-*page booklet,* 8¼ x 11 in., including description, specifications and working details of Pyrobar partition tile.

Weis, Henry, Mfg. Co., Atchison, Kansas

1177. *"Weisteel Metal Compartments."* Illustrated catalog, giving full details regarding this compartment.

PERGOLAS

Hartmann-Sanders Co., Elston and Webster Avenues, Chicago, Ill.

930. *Four-page illustrated circular D-61* on Pergolas and Arbors will be sent free on request.

PIPE—See also Metals and Metal Building Specialties

The American Brass Company, Waterbury, Conn.

1055. *Bulletin B-1, "Brass Pipe for Water Service."* 8½ x 11 in. 28 pp. Illustrated. Gives schedule of weights and sizes (I.P.S.) of seamless brass and copper pipe, shows typical installations of brass pipe, and gives general discussion of the corrosive effect of water on iron, steel and brass pipe.

Bridgeport Brass Company, Bridgeport, Conn.

941. *Brass Pipe and Pipings; When and How It Should Be Used. Bulletin No.* 15. This book contains valuable tables, charts, and examples for the design of hot-water installations, with illustrations of details and connections. It also discusses the use of pipe of different materials; various processes for preventing rust and corrosion in iron and steel pipes. It is a valuable treatise for all architects and engineers. 47 pages. Illustrated. 8 x 10½ in.

PIPE, CONDUCTOR

Hussey & Co., C. J., 2850 2d Avenue, Pittsburgh, Pa.
New Jersey Zinc Co., 160 Front Street, New York.
Wheeling Corrugating Co., Wheeling, W. Va.

1141. *Something new in a conductor pipe.* Write for further information and prices.

PLANS—BUILDING

American Face Brick Association, 130 No. 12th Street, Chicago, Illinois.

25. *Four booklets* of small houses from 3 to 8 rooms, containing 98 reversible designs. (1) 3-4 rooms, (2) 5 rooms, (3) 6 rooms, (4) 7-8 rooms. Size 8½ x 11 in. Each booklet 35 cents, set $1.00.

Architectural House Planning Service Company, 20 South 18th Street, Philadelphia, Pa.
See lising under "Books."

Building Age and National Builder, 239 West 39th Street, New York.
"Beautiful Homes of Moderate Cost." $1.00.
"Homes of Beauty and Convenience." $1.00.
"Beautiful Bungalows." $1.00

Keith Corporation, 100 No. 7t h Street, Minneapolis, Minn.

26. *Twelve different plan books* at $1 each. Cottages, bungalows, two-family garages, etc.

27. *Fifty Small Homes of Character.* Price $1. Working drawings, specifications and models of small homes.

Stevenson, Robert L., 521 Paddock Bldg., Boston, Mass.

1325. *Plan Book with* 300 illustrations. 100 homes of all types costing $5,000 to $20,000. Price $2 postpaid.

CABOT'S "QUILT"

The late Charles P. Steinmetz said:

"Our present structures are causing annual leakage costs of literally hundreds of millions of dollars' worth of heat. The seriousness of this loss economically is not realized because it is not actually missed and cannot be specifically appreciated. But the loss is there, and it looms as a serious problem."

Will Save This Heat

One layer of "Quilt" will stop as much heat as 28 to 40 layers of cheap building paper! One layer is equal to nearly four inches of solid wood, or nearly twice that thickness of brick wall.

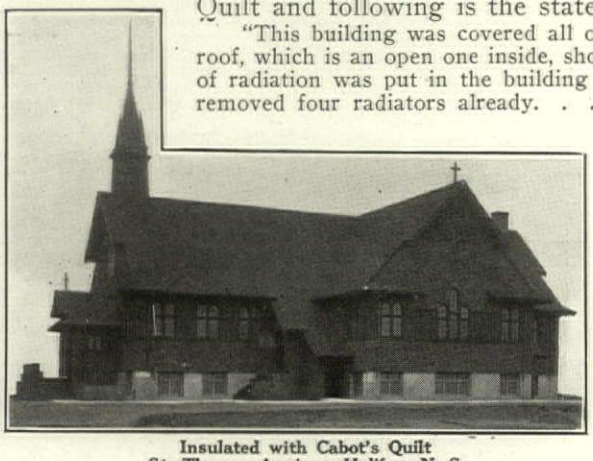
The picture of this church below and the letter from the pastor shows that Cabot's Quilt pays for itself in reduced heating equipment, and then continues to pay for itself every few years in reduced fuel bills.

"Removed FOUR RADIATORS, TWO more never used"

This is the result of insulating the walls and roof of this church in Halifax with Cabot's Quilt and following is the statement of pastor:

"This building was covered all over with Cabot's Quilt, with the best results. The roof, which is an open one inside, showed no signs whatever of frost. The same amount of radiation was put in the building as the heating engineers usually install. We have removed four radiators already. . . . We have retained two, which are never used; merely as a margin of safety, although we had not used them in the very severe weather of this winter. We attribute this saving in radiation to your Quilt."

(Rev.) T. O'SULLIVAN, St. Thomas Aquinas, Halifax, N. S., March 16, 1920.



Insulated with Cabot's Quilt
St. Thomas Aquinas, Halifax, N. S.

A smaller heater and less coal, and a comfortable house with no cold walls or cold drafts across the floors, are what you get for your money when you insulate houses with Cabot's Quilt.

How can you render better service than this to make your clients loyal?

Cabot's Quilt is not only the pioneer and the standard of heat-insulating efficiency, but it has every other necessary quality for a sound building material: It will not get foul or rot, nor harbor insects or vermin, it will not burn but makes a good fire-resistant, it is flexible, and will fit any surface or around any turn.



Sample of Quilt sent free.

SAMUEL CABOT, Inc.

Manufacturing Chemists

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5000 BLOOMINGDALE AVE., CHICAGO, ILL.

Manufacturers of the celebrated Cabot's Creosote Shingle Stains, Old Virginia White, Double-White, Waterproof Stucco Stains, etc.

Selected List of Manufacturers' Literature

(*Continued from page 208*)

Stillwell, E. H., & Co., 270 California Bldg., Los Angeles, Calif.
1324. *"All-American Homes,"* 50 houses, 7 to 10 rooms, $1.00. *"The New Colonials,"* 50 houses, 6 to 10 rooms, $1.00. *"South-West Stucco Homes,"* 75 Duplexes and Bungalows, $2.00. *"West Coast Bungalows,"* 50 houses, 6 and 7 rooms, $1.00. *"Little Bungalows,"* 75 houses, 3 to 5 rooms, $1.00.

PLASTER BASE—See also Stucco Base

PLASTER BOARD
United States Gypsum Company, 205 W. Monroe Street, Chicago, Ill.
1348. *Gyp-Lap,* a substitute for wood or metal lath.

PLUMB BOBS
Keuffel & Esser Company, Hoboken, N. J.
New York Blue Print Paper Co., 102 Reade Street, New York

PLUMBING EQUIPMENT—See also Bathroom Fixtures and Showers
Andrews Heating Co., 2001 Heating Bldg., Minneapolis, Minn.
Bridgeport Brass Company, Bridgeport, Conn.
530. *Plumbing Supplies.* Catalog of adjustable swivel traps; basin and bath supplies and waste; basin and sink plugs; low tank bends; iron pipe sizes of brass pipe. 20 pp. Ill. 8 x 10½ in.
Crane Company, 836 S. Michigan Avenue, Chicago, Ill.
1133. *Crane Products in World Wide Use.* Catalog. 5 x 9½ in. 24 pp. Illustrated.
1134. *Plumbing Suggestions for Home Builders.* Catalog. 3 x 6 in. 80 pp. Illustrated.
1135. *Plumbing Suggestions for Industrial Plants.* Catalog. 4 x 6½ in. 43 pp. Illustrated.
The Fairfacts Company, 234 West 14th Street, New York
1127. *"The Perfect Bathroom"* will be of great value to all builders and prospective builders.
Hardin-Lavin Co., 4538 Cottage Grove Ave., Chicago, Ill.
455. *Handy-Man Book,* or Plumbing and Heating Encyclopedia. Price 50c. 4⅞ x 6¾ in. 240 pages. Illustrated.
Karol, B. & Sons Co., 808 S. Kedzie Avenue, Chicago, Ill.
1268. *Send for a complete catalog* covering the plumbing, heating and pneumatic waterworks fields.

POWER PLANTS
Hercules Corp., Evansville, Ind.
Novo Engine Co., Lansing, Mich.

PUMPS
C. H. & E. Mfg. Co., 259 Mineral Street, Milwaukee, Wis.
983. *Bulletin No. 2.* Pumps.
Dayton Pump & Mfg. Co., Dayton, O.
1368. *Catalog* of Dayton Pumps describing the efficiency and durability for light and heavy work.
Myers & Bro. Company, F. E., Ashland, Ohio.
137. *General Catalog.* 6 x 9 in. 392 pages. Shows complete line of Myers Products—Pumps for Every Purpose, Hay Tools, Door Hangers, Store Ladders, etc. Of particular interest to hardware and implement dealers, plumbers, architects, contractors and builders; mill, mine, factory and railway superintendents.

PYROBAR•GYPSUM TILE
United States Gypsum Co., 205 W. Monroe Street, Chicago, Ill.
1126. 8½ x 11 in. *Illustrated catalog,* giving architectural data on Partitions and Furring Tile.

RADIATORS
American Radiator Co., 104 West 42d Street, New York.
1004. *"Corto."* 16-page illustrated booklet, describing the Radiator Classic.

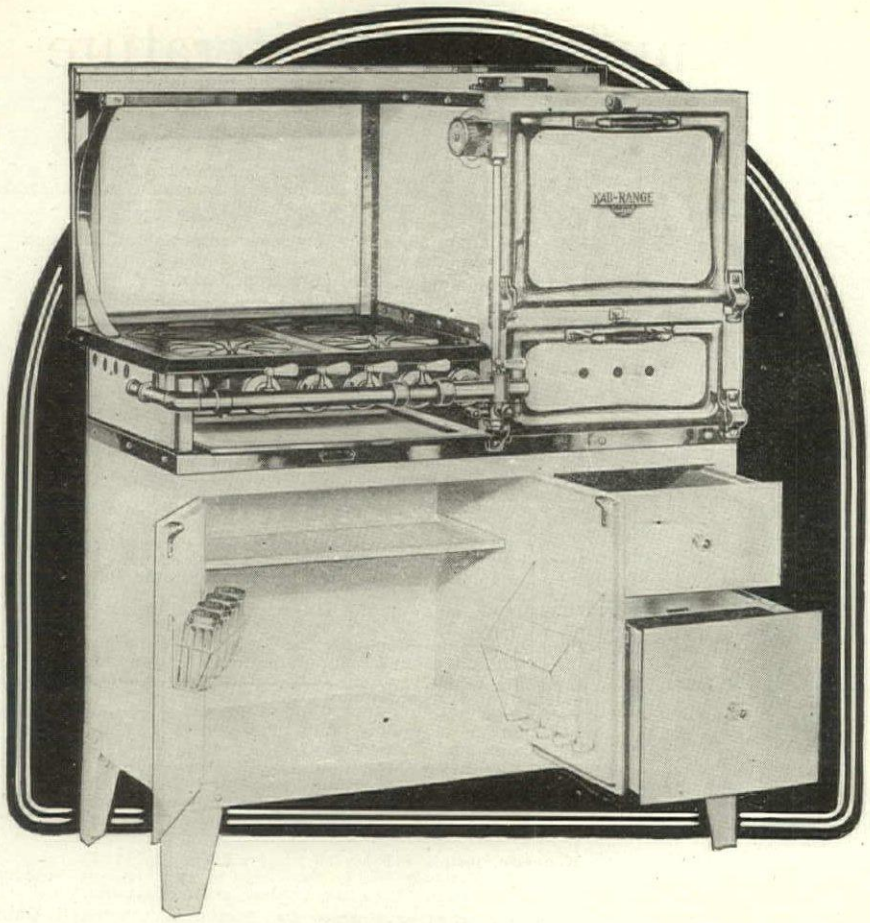
RANGES—See also Heating Equipment
American Heating & Lighting Co., Morenci, Mich.
1228. *"Clark Jewel"* No. D318 and No. E185 described and illus. in a folder.
American Stove Company, Lorain, Ohio.
988. *Catalog No.* 94. 5¼ x 9¼. 70 pages. Illustrated. Describing the Clark Jewel Gas Stoves with Lorain Oven Heat Regulator.
1112. Catalog No. 95. Direct Action Oil Stoves with "Lorain" High Speed Burner. 24 pp. illus. catalog, giving dealer helps and facts, besides illustrations of the various models.
1113. *Catalog No.* 96. Direct Action Gas Ranges. 80 pp. illustrated catalog, showing this complete line of ranges.
1114. *Catalog No.* 97. Direct Action Coal Ranges. 24 pp. illus. catalog, showing the proper way to make these coal ranges a decided novelty in range construction.
989. *Catalog No.* 117. 6 x 9 in. 42 pp. Illustrated. Describing the Clark Jewel Oil and Gasoline Stoves with Lorain Burners.
Ohio State Stove & Mfg. Co., 666 Lakeshore Drive, Columbus, Ohio.
1305. *"The Kab-Range"* is clearly illustrated and described in a booklet. The Kab-Range is a combination of the Packer All-Steel Kitchen Cabinet and the Packer Rapid-Fire Range.
Standard Gas Equipment Corp., 18 East 41st Street, New York.
800. *Vulcan Gas Ranges and Appliances.* Booklet. 5 x 8 in. 50 pp. Illustrated. Describes complete line, including Vulcan Smooth Top Compact Cabinet Gas Ranges for kitchen in the home.
1149. *Vulcan Gas Equipment for Hotels, Hospitals, Restaurants, Etc. Booklet.* 5 x 8 in. 45 pp. Illustrated. Equipment for heavy-duty cooking requirements, with information of value to architects in planning kitchens.
1195. *"The Vulcan Bulletin."* 16-page illustrated catalog giving timely hints and advice about the Vulcan Range.
1203. *"How Kitchen Space Was Saved in Planning."* 8½ x 11 in. illustrated catalog describing in detail the spot and floor plan of some of the finest apartment houses, testimonial letters from women and architects, the ¼ in. scale plan specially planned which will save time in the drafting room and also the complete line of Smoothtop Ranges.

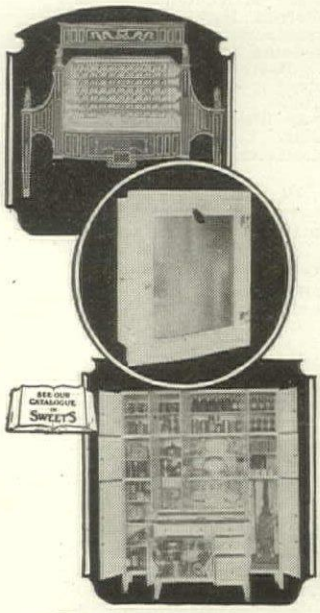
REFRIGERATION
Herrick Refrigerator Co., Waterloo, Iowa.
1212. A set of blue prints showing dimensions and various openings necessary for Herrick Outside Icing may be had on request.
McCray Refrigerator Company, 2464 Lake Street, Kendalville, Ind.
466. *Catalog No.* 95—Refrigerators for Residences.
467. *Catalog No.* 53—Refrigerators for Hotels, Restaurants, Clubs.
468. *Hospitals and Institutes.* Catalog No. 64—Market Coolers and Refrigerator Counters.

REGISTERS, WARM AIR
Auer Register Co., The, Cleveland, Ohio.
1318. *Illustrated catalog* describing registers of every type, size, finish to cover all the requirements for heating and ventilating.
The Hart & Cooley Company, Inc., New Britain, Conn.
747. *"Wrought Steel Warm Air Registers."* 7 x 10 in. 24 pp. illus. catalog giving a splendid description of the various registers. Also includes the prices.
Rock Island Register Co., Rock Island, Ill.
1254. Booklet describing the "No Streak" Register may be had on request
Tuttle & Bailey Mfg. Co., 2 West 45th Street, New York.
1153. *No. 78 Catalog.* 72 pp. Illustrated. Everything about Registers and Grilles, with prices.

ROOF DECKS—See Roofing Materials

ROOFING MATERIALS
American Insulation Co. (Asbestos Shingle Dept.), Roberts Avenue and Stokley Street, Philadelphia, Pa.
1117. *An excellent* dealer proposition is offered. A letter will bring a prompt response.
American Sheet & Tin Plate Company, Pittsburgh, Pa.
140. *"Better Buildings."* Catalog. 8½ x 11 in. 32 pp. Describing Corrugated and Formed Sheet Steel Roofing and Siding Products—Black, Painted and Galvanized; together with directions for application of various patterns of Sheet Steel Roofing in various types of construction.
112. *Copper—Its Effect Upon Steel for Roofing Tin.* Catalog 8½ x 11 in. 28 pp. Illustrated. Describes the merits of high grade roofing tin plates and the advantages of the copper steel alloy.
Asbestos Shingle, Slate & Sheathing Company, Ambler, Pa.
141. *Specifications and Price List.* Descriptive booklet. Details of Ambler Asbestos Cement Roofing Slates, "Century" Asbestos Shingles and Asbestos Corrugated Sheathings. Tables and drawings. Size 6 x 9 in. 44 pp.
142. *Ambler Asbestos Corrugated Roofing.* Catalog gives complete data for specifying drawings, methods of applications, tables, etc. Size 8½ x 11 in. 20 pp.
Barrell Company of N. Y., Inc., Wm. L., 50 Leonard Street, New York
148. *Con-ser-tex Canvas Roofing.* Description of a specially treated fabric used for roofing, with directions for laying. 12 pp. Illustrated. 3¼ x 7 in.
Barrett Company, The, 40 Rector Street, New York.
1330. *"Better Homes for Old Houses"* shows the common type of old houses with suggestions from leading architects as to their remodeling into more artistic and more expensive homes. A special giant shingle has been designed for these remodeling jobs.
Beaver Products Company, Inc., Buffalo, N. Y.
469. *Illustrated catalog* will be sent on request.
Beckman-Dawson Mfg. Co., 111 W. Jackson Blvd., Chicago, Ill.
1213. *A sample* in your choice of color may be had free of Winthrops in both individual and in 3-in-1 strip form.
Boyle, John & Company, Inc., 116 Duane Street, New York.
145. *Boyle's Bayonne Roof and Deck Cloth.* List B-93. A prepared roofing canvas guaranteed waterproof for decks and the roofs and floors of piazzas, sun-parlors, sleeping porches.
Philip Carey Co., 520-540 Wayne Ave., Chicago, Ill.
1363. *"Before You Build,"* a catalog describing the artistic possibilities of Asfaltslate.
Cortright Metal Roofing Company, Philadelphia, Pa.
236. Four-page circular describing the various shingles.
737. *Write for this beautifully illustrated catalog* describing the benefits of metal roofing.
Edward's Mfg. Company, 433 Eggleston Avenue, Cincinnati, O.
471. *Catalog No.* 65 describes fully Metal Roofing, Siding, Ornamental Ceilings and other Sheet Metal Work. This is a 210-page catalog well illustrated.
The Emack, John D., Co., 15 East 49th Street, New York.
1077. *"Old Stonesfield Roofs."* A folder containing illustrations (one colored) of houses with "Olde Stonesfield Roofs," together with a description of the product.
Ford Roofing Products Co., 2341 So. La Salle Street, Chicago, Ill.
1279. *Write* for particulars, prices and samples of the "Cyclone Shingle."
Hussey & Co., C. G., Pittsburgh, Pa.
942. *Copper Roofing and Flushings.* Book No. 6. 34 pp.
Johns-Manville, Inc., 41st Street & Madison Avenue, New York.
1093. *Asbestos Roofing.* Brooks Brand, the white top roofing described and illustrated in a 4-page folder.
1094. *"Rocks or Rags."* 14 pp. illus. folder describing the materials used in Johns-Manville's Shingles.
1095. *Transite Corrugated Asbestos Roofing and Siding.* Its advantages described in a four-page folder.
1096. *Ready-to-Lay Roofing and Roofing Materials.* 16 pp. illus. and descriptive booklet.
Keystone Roofing Mfg. Co., York, Pa.
1285. *"A Distinctive Roof."* Send for samples and information regarding this roof.
Knickerbocker Slate Corp., 153 East 38th Street, New York.
485. *Four-page folder,* describing the "Graduated Slate Roofs," described and illustrated in a 4-page folder.
Milwaukee Corrugating Co., Milwaukee, Wis.
2003. *"Milcor" Slate Roofs.* 12 pp. illus. folder, describing "Titelock" Metal Tile.
2004. *"Milcor" Roofs of Permanent Beauty.* 4 pp. illus. folder describing the economy, appearance, endurance and protective qualities of Milcor Spanish Tile.
The Moeschl-Edwards Corrugating Company, Inc., P. O. Box 564, Dept. BA, Cincinnati, Ohio.





BECAUSE it has proved a happy solution to the small kitchen problem, because of its beauty and unique design, and because of its many distinctive time and labor saving features, Kab-Range has won continuous favor with architects, builders and housewives. It was specially designed for the modern small kitchen.

Read further details to the right and mail the coupon to us for complete information and prices.

The Ohio State Stove & Mfg. Co.
Main Offices and Factory, Columbus, Ohio
New York Display: 30-32 East 20th Street
Chicago: 666 Lakeshore Drive

The KAB-RANGE

Trade Mark Registered

Kab-Range and Other Packer-Built Products

Kab-Range combines into a single unit two nationally known products, the Packer All-Steel Kitchen Cabinet and the Packer Rapid-Fire Range. In the combination unit, the distinctive features of each have been combined into a dozen or more distinct advantages.

Pots and pans and even foodstuffs may be stored in the lower compartment — right where needed—without any danger of warming up. An exclusive and patented feature assures this.

Kab-Range was specially designed to meet the requirements of the modern small kitchen. It most admirably solves the problem of how best to utilize limited kitchen space.

As manufacturers of a complete line of kitchen products, it has been possible for us to make and sell Kab-Range at a price of very little more than the ordinary range.

Kab-Range is finished in two different styles and may be had with 14″, 16″ or 18″ ovens, and with overall widths from 21″ to 45″.

Our Other Products and Special Combinations

On quantity orders, special combinations of this with other of our products will be furnished. These include the Packer All-Steel Kitchen Cabinet, Broom Closet, Cupboard Units, Dish Cupboards and Gas Ranges.

We also manufacture a complete line of radiant, Bunsen and reflector types of gas heaters and all-steel medicine cabinets.

MAIL the coupon below today for complete information and prices. Just pin to your letterhead.

B. A.

Gentlemen: Kindly send me at once complete information and prices on the new Kab-Range and your other products.

Name .....

Address .....

.....

Selected List of Manufacturers' Literature

(*Continued from page* 210)

1171. *Complete set of catalogs* illustrating and describing the many articles of sheet metal building material, including roofing, siding, metal ceiling, Spanish metal tile, metal shingles, eaves trough, box gutter, conductor pipes, skylights, ventilators, rolling steel doors, Kalamein Doors, tin clad doors, smoke screens.

National Sheet Metal Roofing Company, 339 Grand Street, Jersey City, N. J.

159. *Manufacturers of Metal Shingles* in various designs, both in painted tin or galvanized iron. Samples sent on request.

Nelson, B. F., Mfg. Co., Minneapolis, Minn.

1310. *"Nelson Master Slab Roofs"* are thoroughly modern and are spitable to every architectural need. Write for further information.

New Jersey Zinc Co., 160 Front Street, New York.

1185. *"Standing Seam Horse Head Zinc Roofing."* Folder containing instructions for laying, details and data regarding Standing Seam Horse Head Zinc roofing, and including a brief description of a 60-year-old zinc roof.

Reynolds, H. M., Shingle Co., Grand Rapids, Mich.

1236. *Write for catalog* describing the Reynolds Shingles which is durable, fireproof, economical and possesses unfading beauty.

The Richardson Company, Lockland, Cincinnati, Ohio.

472. *Biskalt Membrane Roofs.* Contains specifications for applying Membrane roof over boards, and also for applying over concrete. Illustrated with line drawings of several approved methods of flashlights. 36 pp. 8½ x 11 in.

1180. *"Roofs of Distinction."* 20 pp. illus. catalog discussing the inner secrets of good roofing, true economy in roofing, a lasting weather defense, etc., etc.

1181. *"Lok-Lap Asphalt Shingles."* 10 pp. illus. catalog describing the laying of this shingle in various designs; also showing photographs of houses covered with these shingles.

The Ruberoid Co., 95 Madison Avenue, New York.

750. *"Ruberoid Facts Worth Knowing."* A catalog of all Ruberoid Weatherproofing Products.

1069. *Ruberoid Octab Strip-Shingle Booklet.* A booklet that shows how Ruberoid Octabs may be laid in pattern form in many attractive designs.

1070. *"For Permanence."* A booklet on Ruberoid Roll-roofings showing photographs of Ruberoid Roofs that have been in service for twenty to thirty years.

1071. *Ruberoid Built-up Roof Booklet.* A booklet showing specifications for Ruberoid Built-up roofs and how they adapt themselves for special treatment, such as the use of color, tile, slag or gravel finishes.

1072. *"Making Old Roofs New."* A booklet describing Roof-Coatings and Plastics which add many years of life by being properly used.

1073. *"A Better Roof for the Same Money."* A booklet that describes the improved Ruberoid Unit-shingle. Extra-size. Its time-saving feature offers the home builder a better roof for the same money.

Stearns, A. T., Lumber Co., Neponset, Boston, Mass.

United States Gypsum Company, 205 W. Monroe Street, Chicago, Ill.

161. *Gypsum Poured, Steel Reinforced.* Loose-leaf bulletins. 3½ x 11. Pyrofill.

139. *Loose Leaf Bulletins.* 8½ x 11 in. Describing Pyrobar Roof tile, which is laid directly on purlins or tee irons, joints grounted, and is then ready for roof coverings.

Vendor Slate Company, Easton, Pa.

474. *"A Book for Architects"* is the title of the new 24-page well-illustrated catalog. See also listing under Slate.

531. *The Vendor Book of Roofing Slate for Architects.* Contains original information on slate in various architectural uses; history, geology, sundry, practical matters; complete descriptive classifications; extended treatise on architectural roof design and specifications. 44 pp. Illustrated. 8½ x 11 in.

Weatherbest Stained Shingles Co., Inc., 145 Main Street, No. Tonawanda, N. Y.

1214. You may have free on request a set of large samples showing Weatherbest Colors, literature showing lower cost of Weatherbest Stained Shingle sidewalls and book on Weatherbest Thatched Effect Roof Construction.

ROOFING MACHINERY

Dunn, W. E., Mfg. Co., 700 W. 23d Street, Holland, Mich.

1296. *"Basic Facts"* is a book giving facts and figures on a splendid proposition of manufacturing Duntile. Write for it immediately.

Hansen, L., Co., 3617 23d Street, Kansas City, Mo.

1273. *Circular and bulletin* describing a machine for the manufacture of roofing tile.

ROOF TRUSSES (Wood)

McKeown Bros. Co., 21 East 40th Street, New York.

922. *"Clear Floor Space"* illustrates, by pictures in 4 pages, the two most desirable types of trusses used in building construction.

RUBBER FLOORING—See Flooring Composition

RULES

Geier & Bluhm, 668 River Street, Troy, N. Y.

Lufkin Rule Company, Saginaw, Mich.

991. *General Catalog No.* 11. 5¼ x 7¼. 166 pages. Illus. A Comprehensive Catalog Covering Measuring Tapes, Rules and Mechanical Tools.

Master Rule Mfg. Co., 819 E. 136th Street, New York.

1253. Write for further information regarding the "Interlox" Master Slide Rule.

New York Blue Print Paper Co., 102 Reade Street, New York.

Sargent & Company, New Haven, Conn.

Starrett Co., The L. S., Athol, Mass.

1002. *Catalog No.* 2 is an up-to-date, interesting and well illustrated 352-page book. It will take care of all your wants. Write for it.

SAFETY BRACKETS—See Brackets-Ladder

SASH—See Doors and Windows

SASH BALANCES

Caldwell Mfg. Company, The, Rochester, N. Y.

445. *Suggestions for the Present-Day Architect.* Booklet, 6 x 9 in. 16 pp. Illustrated. Gives full size dimensions and information for writing specifications for Caldwell Sash Balances.

Pullman Mfg. Company, Rochester, N. Y.

10. *Catalog No.* 38, describing new removable sash balance.

SASH CHAINS

Chain Products Co., The, Cleveland, Ohio.

1221. *Send for Hodell Specification File A. I. A.*

SASH CORD

Samson Cordage Works, Boston, Mass.

477. *An interesting catalog* with actual samples of the various grades of cordage therein.

SAW MACHINERY & SAWS—See also Woodworking Machinery

American Saw Mill Mchy. Co., 61 Main Street, Hackettstown, N. J.

1237. *Catalog No.* 21, describing Circular Saws of all sizes.

1238. *General Catalog No.* 22 *and special Bulletin No.* 77, describing sawing machinery for use on the job in the shop.

Atkins & Company, E. C., Indianapolis, Ind.

286. *"Saws, Saw Tools and Machine Knives."* Catalog No. 19. A 268-page catalog with a hard cover describing and illustrating in detail the entire line manufactured by this company.

Barnes Co., W. F. & John, 71 Ruddy Street, Rockford, Ill.

1239. *Catalog No.* 84 describes in full detail the Patent Foot and Hand Power Wood Working Machinery.

C. H. & E. Mfg. Co., 259 Mineral Street, Milwaukee, Wis.

164. *Bulletin No.* 1. Saw Rigs.

Crescent Machine Company, 206 Main Street, Leetonia, Ohio.

479. *This* 1921 catalog contains improvements on No. 3 and No. 5 Saw Tables, No. 2 Motor-Driven Saw Table, New Motor-Driven Sharper, Hollow Chisel Mortiser.

Foley Saw Tool Co., 914 E. Lake Street, Minneapolis, Minn.

1217. *Circular describing* Foley Saw Filers and Foley Saw Set gladly sent on request.

Huther Bros. Saw Mfg. Company, Rochester, N. Y.

480. *Catalog No.* 38 describes the complete line of Saws.

947. *Catalog No.* 43 is a 100-page well illustrated pocket size book describing patent dado heads, milling saws, patent boxboard matcher cutters, lock corner cutters, concave saws, etc.

Kennedy, Ralph, 111 N. 7th Street, Philadelphia Pa.

1288. "The Kennedy Utility Saw, one of the handiest, economical and practical saws for general utility purposes.

Parks Ball Bearing Machine Co., Station A, Cincinnati, Ohio.

482. *Catalog B* describes in detail Woodworking Machines.

The Tannewitz Works, Grand Rapids, Mich.

1197. *"Variety Saw Benches."* An instructive bulletin describing a machine suitable for all classes of work.

SCAFFOLDING

Beaver Metal Products Co., 80 Boylston Street, Boston, Mass.

SCAFFOLD BRACKETS

Elite Manufacturing Co., Ashland, Ohio

1241. *Catalog and price list* may be had on request.

Gabriel Steel Co., Bellevue Ave., Detroit, Mich.

1316. *Prices and information* sent upon application.

Beaver Metal Products Co., 80 Boylston Street, Boston, Mass.

1358. 16-*page folder,* describing the Beaver Bracket for building construction. With illustrations.

Steel Scaffolding Co., Evansville, Ind.

1289. *Catalog "C."* 3⅞ x 9 in. 16-page illustrated folder describing "Trouble-Saver" Steel Scaffolding. Used by carpenters, roofers, painters, mill-wrights, plasterers, stuccoers, etc.

SCAFFOLD CLAMPS

Richard-Wilcox Mfg. Co. Aurora, Ill.

Steel Scaffolding Co., 1101 N. Governor St., Evansville, Ind.

751. *Write for this booklet.* It contains some very valuable information; also the prices.

SCHOOLS AND COLLEGES—See Correspondence Courses

SCREEN MANUFACTURERS MACHINERY

Markwell Mfg. Co., Inc., 176 Franklin Street, New York.

1143. *"Markwell Marks Well Everywhere."* 16 pp. illustrated catalog describing the Screen Wire Stretcher, the Screen Tacking Machine and the Mitre Cutter.

SCREEN TACKING MACHINE—See Screen Mfgs. Mchy.

SCREEN WIRE STRETCHER—See Screen Mfgs. Mchy.

SCREENS

American Brass Co., Waterbury, Conn.

1347. *Anaconda Screen Wire.* Information on request.

American Wire Fabrics Company, 208 So. La Salle Street, Chicago, Ill.

165. *Catalog of Screen Wire Cloth.* A catalog and price list of screen wire cloth, black enamel, galvanized, American bronze.

Buffalo Wire Works Co., Inc., 322 Terrace Street, Buffalo, N. Y.

Gilbert & Bennett Mfg. Co., 38 So. Dearborn Street, Chicago Ill.

761. *An interesting catalog* describing the practical and beautifying uses of Screens. Write for our Porch Plan. It is free.

New Jersey Wire Cloth Co., 632 So. Broad Street, Trenton, N. J.

1307. *A sample of Screen Cloth* may be had on request.

Wickwire Spencer Steel Corp., 41 East 42d Street, New York.

752. *Complete information* will be gladly sent upon request.

SCREW DRIVERS—See Carpenters' Tools, also Edge Tools

SENSITIZED PAPERS AND CLOTHS—See Artists' Materials

SEWAGE DISPOSAL

Andrews Heating Co., 2001 Heating Bldg., Minneapolis, Minn.

SHEATHING

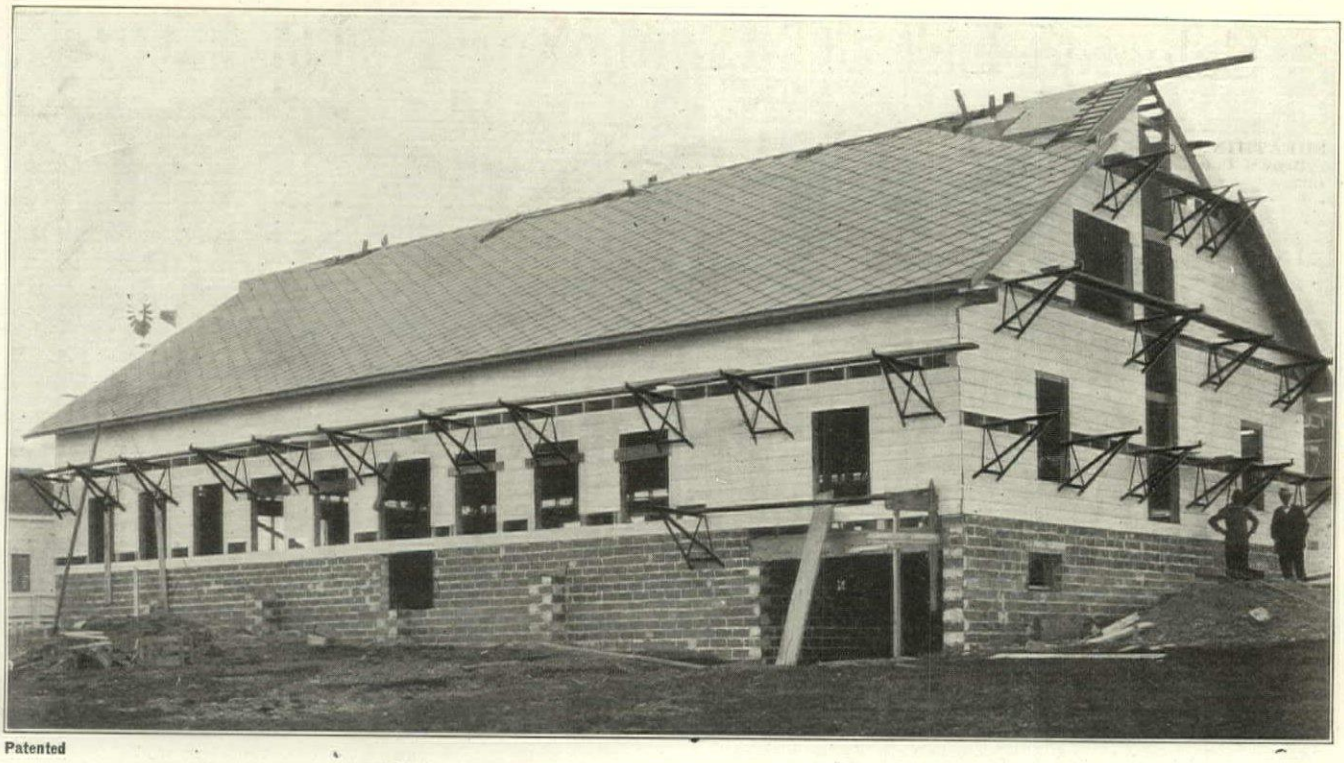
Bishopric Mfg. Company, 103 Este Avenue, Cincinnati, Ohio.

171. *Homes Built on the Wisdom of Ages.* Illustrated. Describing the use of Bishopric Stucco-Board and Sheathing Board.

Stearns, A. T., Lumber Co., Neponsit, Boston, Mass.

United States Gypsum Company, 205 W. Monroe Street, Chicago, Ill.

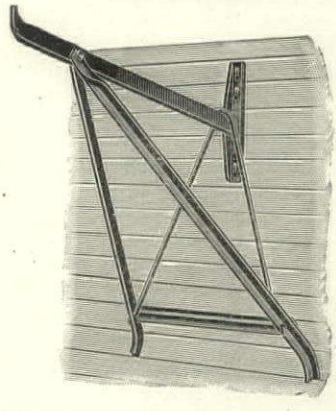
173. *Eight-page Folder. Describes* Adamant Sheathing Board for use instead of wood sheathing.



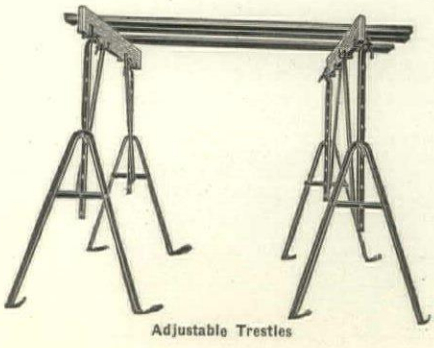
Patented



Carpenter Brackets Hook Directly Around Studding and Stand on Two Legs



Stucco Brackets Attach to Wall With 4 Nails



Adjustable Trestles

"TROUBLE-SAVER"

STEEL SCAFFOLDING

IS SAFETY-FIRST SCAFFOLDING

Compare the time and labor it takes to build the old wooden scaffolding, which is often unsafe and interferes with other work, to "Trouble-Saver" steel scaffolding—which is absolutely rigid with no side-motion or sway, can be erected in less than half the time and never interferes with your grading and other work. Again, they can be taken down in a jiffy and as they fold for cartage and storage, they can be taken from one job to another without loss of any material whatsoever.

The above illustration shows "TROUBLE-SAVERS" on the job and demonstrates the great saving of material that would be required for wood scaffolding.

Our catalog and bulletins describe a complete line of Builders' scaffolding, including Carpenter Brackets, Stucco Brackets, Adjustable Trestles, Bricklayer Trestles, Stucco Trestles, Corner Brackets for both carpenters and stuccoers, and ladder-jacks for painters—also Roof Brackets for wood and asphalt shingles.

Write us today for information

THE STEEL SCAFFOLDING CO.

Evansville **Indiana**

Selected List of Manufacturers' Literature

(Continued from page 212)

SHEATHING PAPER
Brown Company, Portland, Maine.
1329. *"Bermico Sheathing Paper."* A folder containing samples of the four different weights of Mermico will be gladly sent to contractors upon request.

SHINGLES—COMPOSITION—See Roofing Materials

SHINGLES—METAL—See Roofing

SHINGLE STAINS—See Paints, Stains, Varnishes and Wood Finishes

SHINGLE TILE—See Roofing

SHINGLES, WOOD—See Roofing

SHOVELS
Koehring Co., 31st & Concordia Streets, Milwaukee.

SHOWERS, Curtainless—See also Plumbing Equipment.
Kenney-Cutting Products Corp., 507 Fifth Avenue, New York.
260. 9 x 11 in. *loose-leaf folder* describing the entire "Kenney Shower" line by means of brief descriptions, specifications, detail drawing and perspective pictures.

SIDING—See Roofing Materials

SIDEWALK DOORS
American 3 Way-Luxfer Prism Co., Inc., 1309 So. 55th Street, Cicero, Ill.; also 358 Webster Avenue, Long Island City, N. Y.
1103. *Descriptive circular,* with prices on plain steel, diamond plate and vault light top doors.

SIDEWALK LIGHTS—See Vault Lights
American 3 Way-Luxfer Prism Co., Inc., 1309 So. 55th Street, Cicero, Ill.; also 358 Webster Avenue, Astoria, New York.

SKYLIGHTS
American 3 Way-Luxfer Prism Co., Inc., 1309 So. 55th Street, Cicero, Ill; also 358 Webster Avenue, Long Island City, N. Y.
1104. *Circulars* describing Steelead, Ridge, Ventilating and Reinforced Concrete with Armored Wire Glass types of construction

Milwaukee Corrugating Co., Milwaukee, Wis.
1344. *Catalog No.* 24, the "Milcor Guide," explains in detail our patented Puttyless Skylight.

SLATE—See also Roofing Materials, Blackboards
The Structural Slate Co., 120 Robinson Ave., Pen Argyl, Pa.
893. *Structural Service Data and Standards.* Consists of thirteen chapters. Each chapter presented as a separate catalog. *Slate for Electrical Uses.* Another catalog in the above series.

SOUND DEADENER—See Insulation

SQUARES
Lufkin Rule Co., Saginaw, Mich.
Sargent & Co., New Haven, Conn.
754. *An interesting booklet* describing the Steel Square.

STAGING
Beaver Metal Products Co., 80 Boylston Street, Boston, Mass.
1358. *Write for information* regarding staging made with Beaver Brackets.

STAIRWAYS—MOVABLE
Bessler Movable Stairway Co., Akron, Ohio.
169. *Illustrated catalog,* containing 24 pp., describes how the Bessler Movable Stairway saves floor space.

STANDARD BUILDINGS
International Steel & Iron Co., Dept. 19, Evansville, Ind.
Truscon Steel Company, Youngstown, Ohio.
176. *Truscon Standard Buildings.* Fourth Edition. Catalog, 8½ x 11 in. 40 pp. Illustrated. Erection details, cross-section diagrams and adaptations are given.

STEEL CABINETS—See also Built-In Features

STEEL JOISTS

STEEL PARTITIONS—See Partitions and Built-In Features

STORE FRONTS
Detroit Show Case Co., 1651 Fort Street West, Detroit, Mich.
916. *Designs. A booklet.* Store fronts and display window designs, giving plans and elevations and descriptions.
940. *Details.* Sheets of full size details of "Desco" awning transom bar covers, sill covers, side, head and jamb covers, ventilated hollow metal sash and profile of members. Size, 16 x 21½ in.

Kawneer Co., Niles, Mich.
177. *Kawneer Store Front.* Illustrated catalog. Drawing and details of construction. Size, 8½ x 11 in. 32 pp.
178. *Full Size Details* Kawneer Construction Blue Prints.
179. *A Collection of Successful Designs.* Portfolio. Shows 24 typical store fronts with elevators. Size 9 x 12 in. 32 pp. Catalog B. J. S. 6 x 9 in. 68 pp. Illustrated. Key to Getting the People In.

Zouri Drawn Metals Co., 1608 East End Ave., Chicago Heights, Illinois.
1331. *"Getting People In,"* illustrated booklet giving plans and diagrams showing the best approved methods of arranging window display space and assuring permanence in the setting of glass.

STOVES AND RANGES—See Ranges. Also Heating Equipment.

STRUCTURAL SLATE
Knickerbocker Slate Corp., 153 E. 38th Street, New York.

STUCCO—See also Cement
The Bishopric Mfg. Co., 17 Este Avenue, Cincinnati, Ohio.
Muller, Inc., Franklin R., Waukegan, Ill.
1380. *"Asbestone,"* the manufacturer's book may be had, together with samples of color tint and pebble dashes.
Portland Cement Association, 111 W. Washington Street, Chicago, Ill.
1038. *Portland Cement Stucco.* Illustrated leaflet of recommended practice for Portland Cement Stucco. Contains data on materials, proportions, application and curing. Table of colors for various tints, photographs of surface textures and drawings of construction details also given. 15 pp. Ill. 8½ x 11 in.
Ritestone Prod. Corp., Westchester Avenue and Bronx River, New York
1187. *"Ritestone Stucco."* An interesting catalog explaining the product itself, how to apply it for best results and also showing some illustrations of houses stuccoed with "Ritestone."
Rocbond Co., Van Wert, Ohio.
268. *"Fortifies Your Home Against the Elements and Time."* 16-page folder. 3½ x 6 in.
269. *"Better Homes."* 12-page booklet, 7¾ x 8 in., describing the advantages of "Rocbond."

STUCCO BASES
Bishopric Mfg. Co., 103 Este Avenue, Cincinnati, Ohio.
1281. *Bishopric for All Time and Clime.* Catalog, 7½ x 11 in., 52 pp. Illustrated. Describing the use of Bishopric Stucco and Plaster Base and Bishopric Sheathing.

The General Fireproofing Co., Youngstown, Ohio.
980. *Herringbone Rigid Metal Lath.* A book describing the use of Herringbone Metal Lath as a base for Stucco and Plaster.
North Western Expanded Metal Co., 1204 Old Colony Bldg., Chicago, Ill.

STUCCO, MAGNESITE—See also Stucco
Muller & Co., Franklyn R., Waukegan, Ill.
1138. *Everlastic Magnesite Stucco.* Booklet. 8½ x 11 in.

SURVEYORS' INSTRUMENTS—See Levels

SUSPENDED CEILING
United State Gypsum Co., 205 W. Monroe St., Chicago, Ill.
186. *Loose-leaf Bulletins.* 8½ x 11 in. Jester-Sackett, consists of plaster board applied to metal channels with special clip, ready for plastering.

TAPES, MEASURING
Lufkin Rule Co., Saginaw, Mich.
Keuffel & Esser Co., Hoboken, N. J.

TELEPHONES—See also Electrical Equipment
Western Electric Co., New York.
1386. *Inter-Phones Systems,* wired into the home during construction or installed in an old house, increase the value of the property. A catalog dealing with this convenience is published by the manufacturers.

THERMOSTATS—See Heating Equipment

TILE
Dunn, W. E., Mfg. Co., 450 West 23d Street, Holland, Mich.
1058. *"Basic Facts,"* a condensed digest of the concrete products business in general. An outline of the part Duntile is destined to play in the building world. A clear analysis of the facts necessary to intelligently enter this highly profitable business.

TILE ROOFING—See Roofing

TILE ROOFING MACHINERY—See Roofing Machinery

TILE, STEEL
The General Fireproofing Co., Youngstown, Ohio.
981. *The Steel Tile Handbook.* A book giving methods and specifications for the use of steel tile as forms for concrete floor work. 32 pages.

Milwaukee Corrugating Co., Milwaukee, Wis.
1343. *"Milcar Manual,"* an 80-page illustrated catalog devotes 16 pages to a most comprehensive study of Milcar Steel Domes.

TILES AND MOSAICS
Hornet Mantel Co., 1147-A Market Street, St. Louis, Mo.
1246. *Attractive catalog* illus. designs in tiles for the bathroom.

TOILET PARTITIONS—See Partitions

TOOLS
Mack Tool Co., Inc., Rochester, N. Y.
491. *An interesting Carpenter's Catalog* may be had on request

Progressive Mfg. Co., Torrington, Conn.
43. *Twelve-page booklet,* describing the "Forstner Bits."
Sand & Sons, J., 4841-43 Rivard Street, Detroit, Mich.
1382. *Literature* concerning Sand's Levels and Tools will be found very useful to the contractor.
Sargent & Co., New Haven Conn.

Swan & Co., James, Seymour, Conn.
496. *104-page catalog* describing "Premium Mechanic's Tools."
White Co., The L. & I. J., Buffalo, N. Y.
497. *Catalog No. 19A* describes Carpenters' Tools.
498. *Catalog No. 20B* describes Coopers' Tools.

TRACING CLOTH AND PAPER—See Artists' and Drafting Materials

TRAILERS
Sheldon Mfg. Co., Box 25, Neahawka, Neb.
1390. *Trailers.* Information on request.

TRANSITS—See Levels

TRAPS—STEAM AND RADIATOR
Johns-Manville, Inc., 41st Street and Madison Avenue, New York.
1051. *Steam Trap.* 8-page illustrated catalog describing the steam and radiator trap.

TREADS
Safety Stair Tread Co., Wooster, Ohio.
1216. *Upon request,* blueprints showing six recent installations of the Wooster Safe-Groove-Stair-Tread, will be sent.

Wright Rubber Prod. Co., Racine, Wis.
1251. *Illus. booklet* describing the long wearing, non-slipping sanitary, noiseless qualities of the Wright Rubber Stair Tread.

TRUCKS—MOTOR
Ford Motor Co., Detroit, Mich.
General Motors Truck Co., Pontiac, Mich.
1026. *"K Series"*—1 to 5-ton capacity. 48-page illustrated catalog describing a line of motor trucks embodying the new and practical features found in them.

TRUSSES (Wood)
McKeown Bros. Co., 21 East 40th Street, New York.
922. *"Clear Floor Space"* illustrates by pictures in 4 pages the two most desirable trusses in building construction.

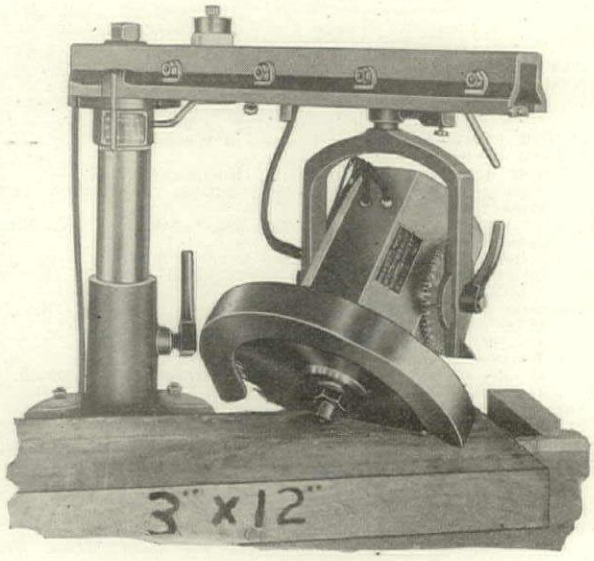
VALVES
Crane Co., 836 S. Michigan Avenue, Chicago Ill.
1139. *No. 50 Steam Pocket Catalog,* 4 x 6½ in., 775 pp. Illustrated. Describes the complete line of the Crane Co.

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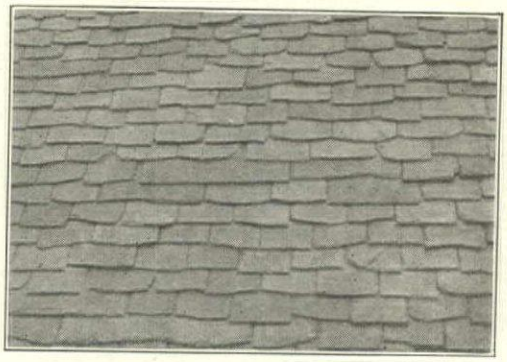
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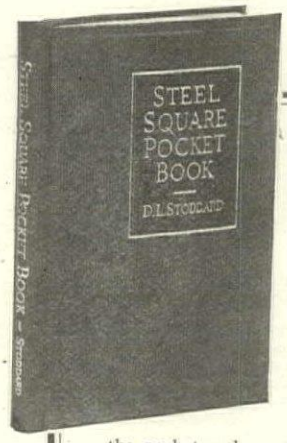
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Selected List of Manufacturers' Literature

(Continued from page 214)

VAULT LIGHTS

American Three Way-Luxfer Prism Co., 1309 So. 55th Street, Cicero, Ill.; also 358 Webster Avenue, Astoria, New York.

915. *Daylighting.* Catalog 915. A complete catalog on glass prisms for use in transoms, sidewalk and floor lights, skylights, etc., for lighting places inaccessible to daylight.

VENTILATION AND VENTILATORS

Ideal Ventilator Co., 71 Murray Street, New York.

1370. *A mailing folder* illustrates and describes the Ideal Window Ventilator for home and office.

Globe Ventilator Co., Dept. L, Troy, N. Y.

1040. *Interesting Catalog* describing the "Globe" Ventilators may be had on request.

Milwaukee Corrugating Co., Milwaukee, Wis.

2005. *"Milcor," "Nu-Air" and Milwaukee Stationary Ventilators.* 16 pp. illus. folder describing perfect ventilation, what it is and how it is obtained.

Washburne Co., E. G., 207 Fulton Street, New York.

1179. *Descriptive Price List* of Rotary Exhaust Ventilators.

WALL BOARDS

Asbestos Shingle, Slate & Sheathing Co., Ambler, Pa.

195. *Descriptive catalog and samples of Linabestos Wall Board for* interior construction. Flame-proof and fire-resisting.

Beaver Products Co., Inc., Buffalo, N. Y.

196. *Illustrated folder,* describing various uses and the methods of handling Beaver Board to the best advantage.

The Celotex Co., 111 W. Washington Street, Chicago, Ill.

1364. *"Your Home,"* an interesting and attractive catalog of homes and information concerning Celotex.

1365. *Volume and Profit* for the Lumber Dealer through the sale of Celotex Insulating Lumber. A booklet, illustrated.

United States Gypsum Company, 205 W. Monroe Street, Chicago, Ill.

201. *Walls of Worth.* Booklet. 8½ x 11 in. 24 pp. Illustrated. Describes Sheetrock, the fireproof wall board, its advantages and uses.

The Upson Co., Lockport, N. Y.

1145. *"Walls and Ceilings of Enduring Charm."* 16 pp. illustrated booklet describing the strength, durability and practicability of Upson Board.

1146. *"The Snow White Lining"* is a 16 pp. illustrated catalog describing Upson Fibre Tile used in bathrooms and kitchens.

1383. *4-page folder* describing the Upson Blue Book of working plans and sketches for interior finishing with Upson Board. The Blue Book is distributed to lumber dealers for the use of the builder. Single blue prints, price 25 cents.

WALLPAPER

Standard Textile Prod. Co., 320 Broadway, New York.

1207. *Write for samples and suggestions* for use of this modern sanitary wall covering.

Wallpaper Mfrs. Assn., 461 Eighth Avenue, New York.

1176. *"Builder's Service Bulletin"* contains samples of wall paper and also helps in the solution of specific problems in the decoration of walls.

WATER HEATER (GAS)

Crane Co., 836 S. Michigan Avenue, Chicago, Ill.

827. *A well illustrated booklet* describing the efficiency, economy and convenience of installing a Crane Water Heater in the building.

Hardin-Lavin Co., 4538 Cottage Grove Avenue, Chicago, Ill.

WATER SOFTENER

Wayne Tank & Pump Co., 805 Canal St., Fort Wayne, Indiana.

1300. *"Wayne Water Softeners"* a necessity in modern homes, a descriptive catalog giving full details about this new mechinery.

WATER SYSTEMS

Fairbanks, Morse & Co., 909 So. Wabash Ave., Chicago, Ill.

1304. *"Home Water Plant Service Library"* describes in detail a thoroughly modern water plant.

Flint & Walling Mfg. Co., 41 Oak Street, Kendallville, Ind.

1320. *"How to Have Running Water"* describes the Hoosier Water Service by which running water may be secured at low cost.

Myers & Bro., F. E., Ashland, Ohio.

WATERPROOFING—See also Dampproofing

The General Fireproofing Company, Youngstown, Ohio.

982. *The Waterproofing Handbook.* A complete treatise describing effective methods for waterproofing all form of masonry.

Johns-Manville, Inc., 41st Street and Madison Avenue, New York.

1098. *"Aquadam,"* 4-page illustrated folder describing this popular waterproof product.

Toch Bros., 110 E. 42d Street, New York. (See listing under **Truscon Laboratories, The.** Cor. Caniff Avenue and Grand Trunk R. R., Detroit, Mich. Paints.)

206. *Science and practice of Integral Waterproofing.* Pocket size. 33 pp. Illustrated. Contains full specifications for waterproofing MASS Concrete, Stucco and Cement Plaster Coat. Entire chapter devoted to "Practical Application of Waterproofed Cement Plaster Coat."

207. *Technical Pamphlet No. 8.* Booklet, 4 x 7 in. 28 pp. A discussion of why concrete requires waterproofing and the properties an integral waterproofing must possess to operate effectively with the natural properties of concrete.

WEATHER STRIPS—Metal

Allmetal Weatherstrip Co., 229 West Illinois Street, Chicago, Ill.

239. *Six-page illustrated circular,* describing the product as used for Hotels, Residences and Institutions.

Concrete Engineering Co., 1926 So. 52d Street, Chicago, Ill.

820. *Ceco Metal Weatherstrips "Outstrip All the Others"* is a 16-page illustrated catalog describing, both by photographs and blue prints, the advantages of installing them.

Federal Metal Weather Strip Co., 1242 Fullerton Avenue, Chicago, Ill.

1222. *4-page illus. folder* describing this metal weatherstrip which allows windows to operate freely and eliminates rattling.

Hoffbauer & Co., Inc., 101 Park Avenue, New York.

1283. *The A. B. C. Weatherstrips.* 4 pp. folder, describing by working drawings the installation of this bronze weatherstrip.

Victor Parting Bead Co., Dept. B, Reading, Pa.

1308. *"Victor Stripping"* is a money and time saver. Write for full information.

Wirfs, E. J., Organization, 103 So. 17th Street, St. Louis, Mo.

997. *"Home Comfort."* 8-page illustrated folder describing an insulated, detachable weatherstrip.

WEATHER VANES

Washburne & Co., E. G., 207 Fulton Street, New York.

211. *Descriptive Catalog in Colors.* Showing different designs of weather vanes and lightning rods.

WINDOW CASEMENTS—See Doors and Windows

WINDOW HARDWARE

Caldwell Mfg. Co., 5 Jones Street, Rochester, N. Y.

9. *Sixteen-page illustrated catalog,* entitled "Suggestions for the Present-Day Architect."

Capital Window Shade Equip. Co., 992 F Street, N. W., Washington, D. C.

1170. *"Save Your Eyes—Nerves and General Health."* 6 pp. illus. folder describing the proper regulation of windows, light and ventilation.

Casement Hardware Co., 250 Pelouze Bldg., Chicago, Ill.

446. *Illus. catalog* of "Casement Window Specialties."

Ives Co., W. B., New Haven, Conn.

The Kawneer Company, Niles, Mich.

214. *Detail Sheets and Installation Instruction.* **Valuable** for architects and builders.

National Mfg. Co., Sterling, Ill.

500. *An interesting, well illustrated catalog.*

Richards-Wilcox Mfg. Co. Aurora, Ill.

532. *Cement Window Hardware.* Booklet. 8½ **x 11 in.** 24 pp. Illustrated. Shows typical installations, drawings, details of construction (blue prints if desired).

Sargent & Co., New Haven, Conn.

Whitney, Vincent, Co., Western Office, 365 Market Street, San Francisco, Calif.; Eastern Office, 444 Mass. Trust Bldg., Boston, Mass.

1218. *Whitco Casement Hardware* is the Easy Hardware. Send for information regarding this easy hardware.

WINDOW, METAL—See Doors and Windows

WINDOW SHADE EQUIPMENT

Capital Equip. Co. 922 F Street, N. W., Washington, D. C.

1170. *"Save Your Eyes, Nerves and General Health."* 6 pp. illus. folder describing the proper regulation of windows, light and ventilation.

WIRE, IRON, BRASS AND BRONZE PRODUCTS

Meyers, Fred. J., Mfg. Co., Hamilton, Ohio.

1229. *"Wire, Iron, Brass, Bronze Work, Window Guards and Railings.* 110 pp. illus. catalog. 7¾ x 10½ in.

WIRE CLOTH

Amer. Wire Fabrics Corp., 208 So. La Salle Street, Chicago, Ill.

Buffalo Wire Works Co., Inc., 332 Terrace Street, Buffalo N. Y.

New Jersey Wire Cloth Co., 532 So. Broad St., Trenton, N. J.

1307. *Samples* will be gladly sent on request.

Wickwire Spencer Steel Corp., Worcester, Mass.

WIRE LATH—See Lath, Expanded Metal, Wire and Wood

WIRE REGISTER FACES

Buffalo Wire Works Co., Inc., 332 Terrace Street, Buffalo, N. Y.

817. *Four-page illustrated folder* showing the most popular designs.

WOOD CARVINGS—See Ornaments, Wood

WOOD FINISH—See Paints, Stains, Varnishes

WOOD LATH—See Lath, Expanded Metal, Wire and Wood

WOODWORK—See also Lumber

Hartmann-Sanders Company, 6 East 39th Street, New York.

533. *Catalog No. 47.* Illustrating Koll's Patent Lock Jointwood stave columns for exterior and interior use. 48 pp. Illus.

WOODWORKING MACHINERY

American Saw Mill Machinery Co., Hackettstown, N. J.

217. *Contractors' Bulletin No. 77.* Describing various types of portable Variety Woodworkers. General catalog No. 22, describing a general line of woodworking machinery.

Barnes Co., W. F. & John, 71 Ruddy Street, Rockford, Ill.

218. *Catalog.* Containing description of rip and other machine saws, formers, mortises, tenoners, lathes. 38 pp. Illustrated.

Buffalo Forge Co., 476 Broadway, Buffalo, N. Y.

1168. *Catalog No. 850-54* describes in full detail the "Buffalo" Improved Woodworker. Write for it.

The Crescent Machine Co., 259 Main Street, Leetonia, Ohio.

220. *Catalog.* Describing band saws, shapers, jointers, planers, borers, mortisers, etc., 144 pp. Pocket size. Illustrated.

967. *Catalog,* 8½ x 11 in., 24 pp., illustrated. Describing Crescent Universal Woodworker, No. 101 to No. 112.

Colgan Machinery & Supply Co., 211 Hayden Bldg. Columbus, Ohio.

1255. *Illustrated booklet* describing the "Champion Mortiser" will be sent free on request.

DeWalt Mfg. Co., Leola, Lancaster, Pa.

1198. *"If,"* 4 pp. illus. folder describing in detail the "Dew-All" machine, designed for eight different kinds of work.

Gallmeyer & Livingston Co., Grand Rapids, Mich.

1050. *"Union,"* 16-page illustrated catalog describing the Portable and Bench type woodworking machines.

Master Woodworker Mfg. Co., 614 Bush Street, Detroit, Mich.

263. *18-page illustrated pamphlet,* 10¾ x 7¾ in., called "The Master Woodworker." The Model No. 7 machine is described.

Parks Ball Bearing Machine Co., Sta. "A" Cincinnati, Ohio.

223. *Illustrated Folder.* Describing Parks' Planing Mill Special, comprising circular saw, joiner, band saw, shaper, etc.

Sidney Machine Tool Co., Sidney, O.

483. *12-page illustrated booklet* describing "Famous Universal Woodworkers."

484. *100-page pocket size catalog,* giving full information on the "Famous Woodworking Machinery."

Wallace & Co., J. D., 1400 W. Jackson Blvd., Chicago, Ill.

1006. *"Wallace Bench Machines,"* 8¾ x 11¼ in. 22-page illustrated loose leaf catalog describing various portable machines.

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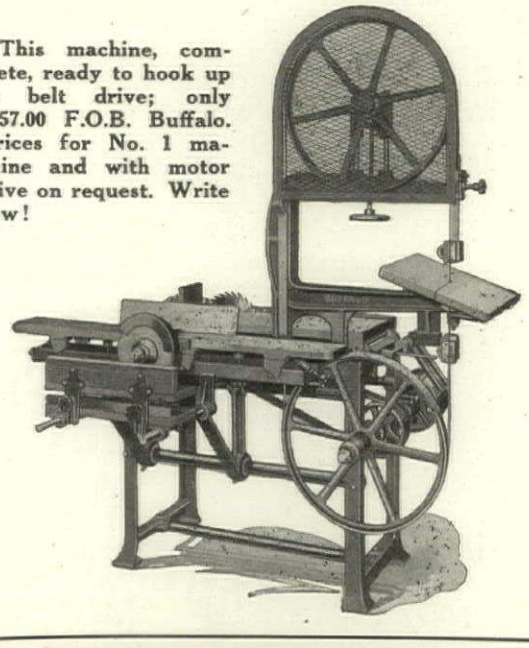
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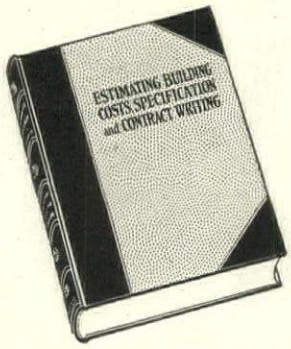
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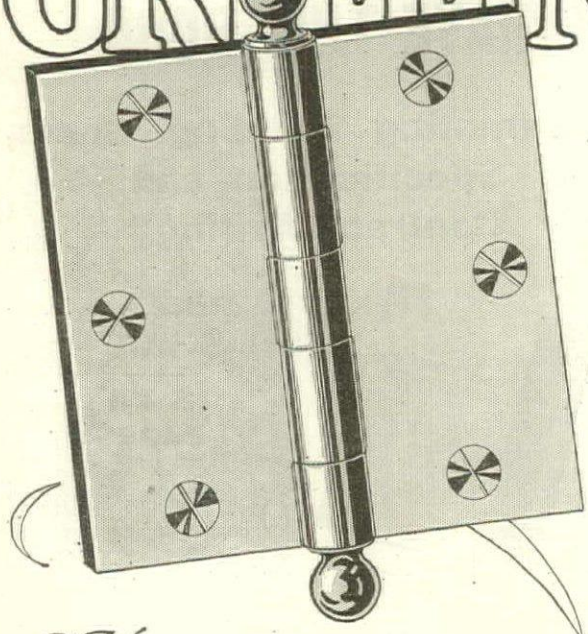
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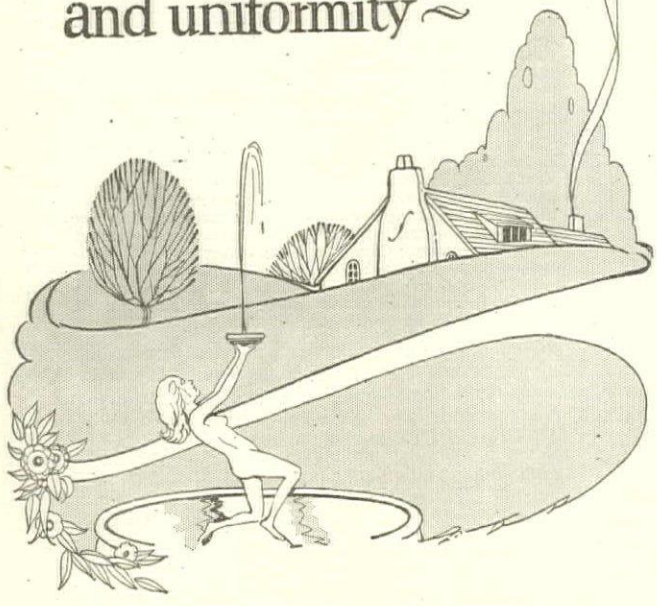
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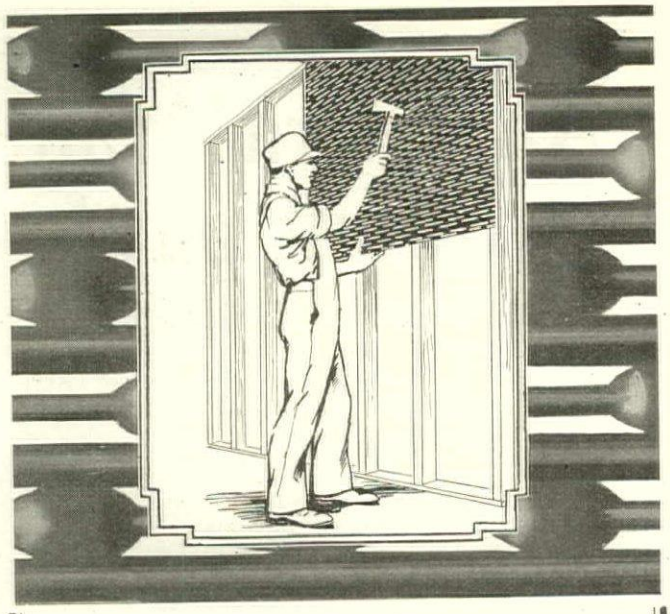
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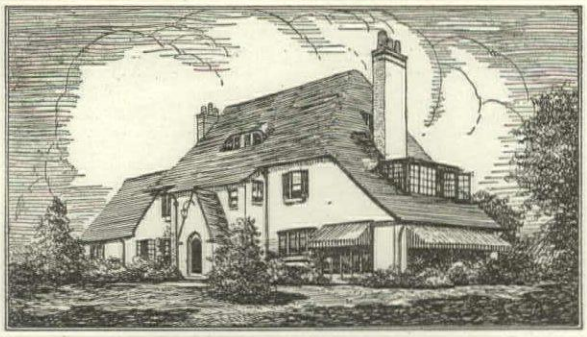
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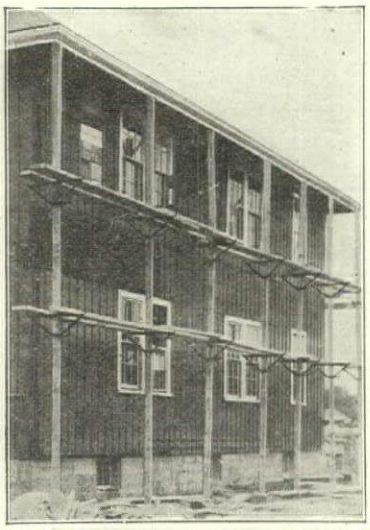
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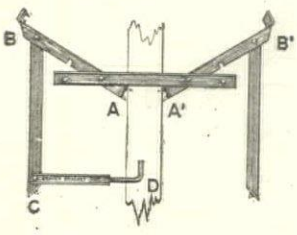
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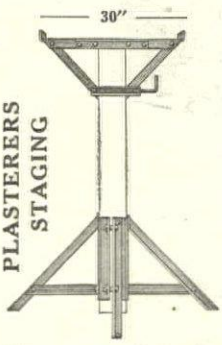
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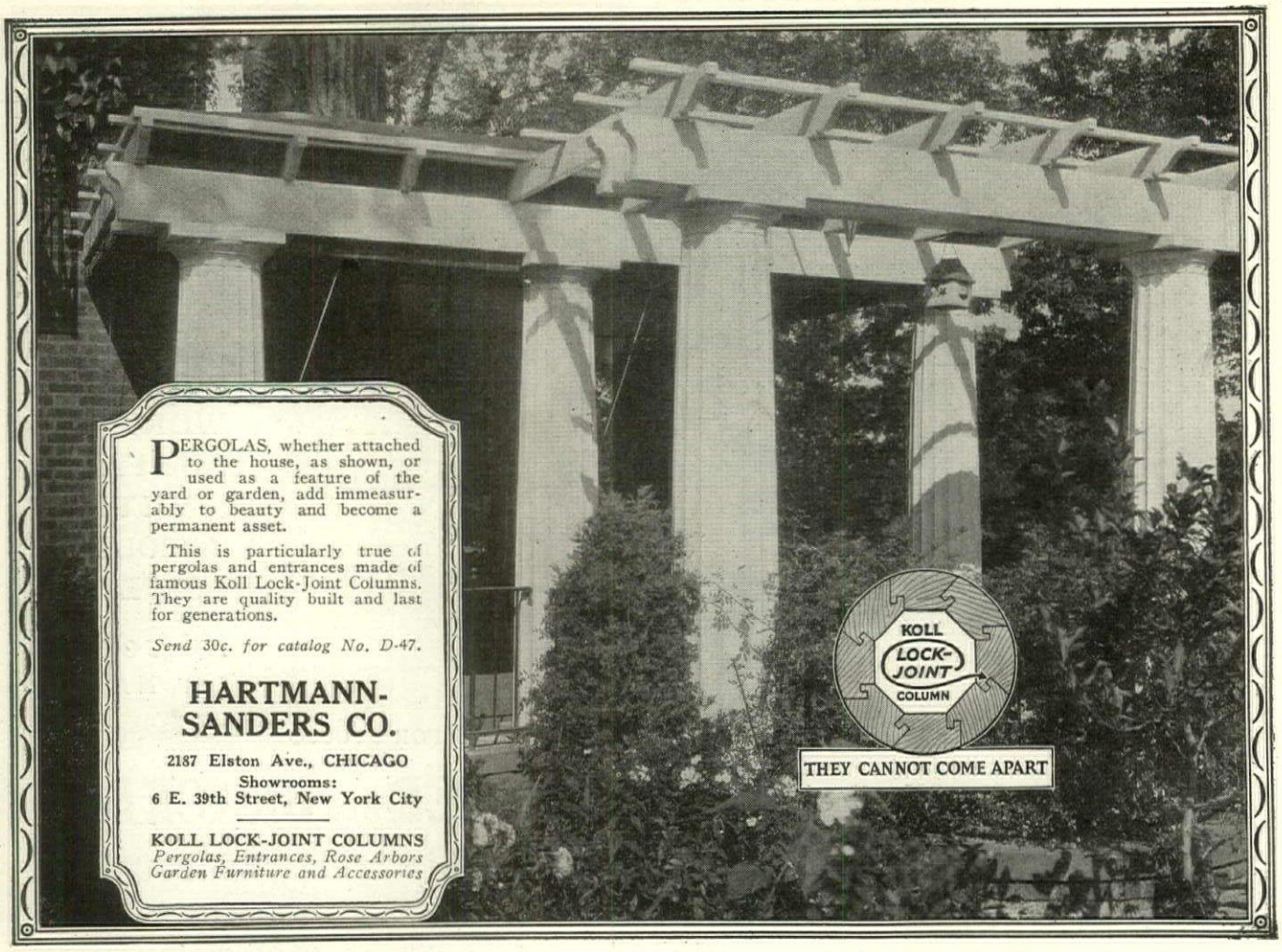
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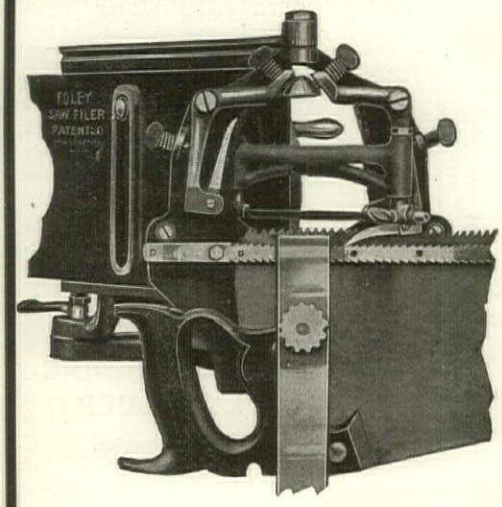
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Model F3—Foley Hand-Drive Automatic Saw Filer, with graduated saw clamping bars. An ideal outfit for small contractors, builders, and saw filers.

What Users Think of the Foley

The Foley Saw Filer and Saw Set are perfect in all respects, and will beat any master saw hand filer not only in better and more accurate work, but also in the number of saws turned out in the same time.

H. Ungles, Lodi, California.

Foley Saw Tools have saved a lot of money for me. To date I have filed over 500 saws. I do all this on the side and can say the Foley stands up fine. Filed 8 saws after supper last night.

L. C. Miller, 19 Grand St., Jamaica, N. Y.

5 MINUTES *to File a Saw with the* FOLEY AUTOMATIC SAW FILER

INSTEAD of 30 minutes or more to file a saw by hand, the Foley Automatic Saw Filer will sharpen a saw in 5 minutes or less. You simply clamp the saw in the frame, turn on the motor or crank by hand, and this marvelous and simple machine files every tooth to just the kind of a cutting edge you want. The Foley Automatic gives perfect results on hand, back, band, meat or circular saws.

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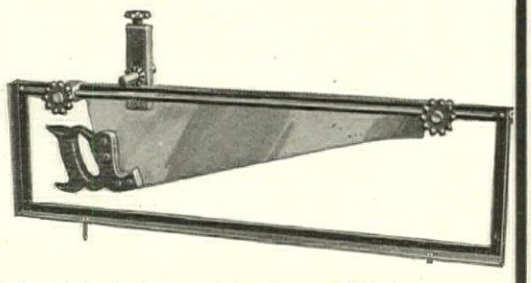
Since the Foley came on the market you can't afford to sharpen saws by hand or send them out to be sharpened. As few as three saws will pay for a Foley in a surprisingly short time. The Foley Saw Filer lasts a lifetime, because there is nothing to get out of order or wear out.

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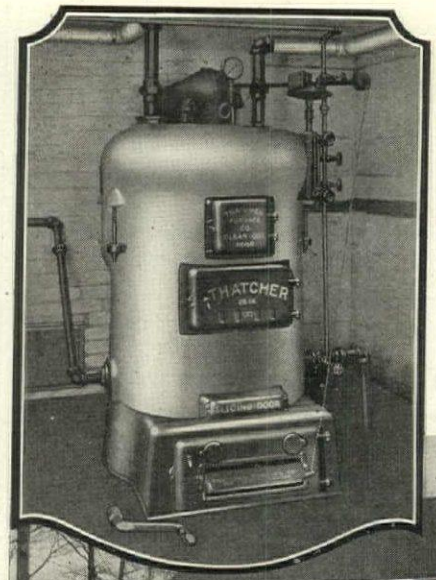
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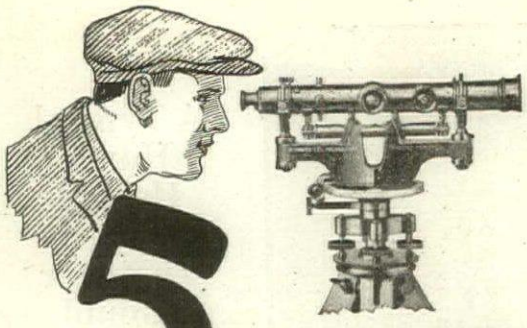
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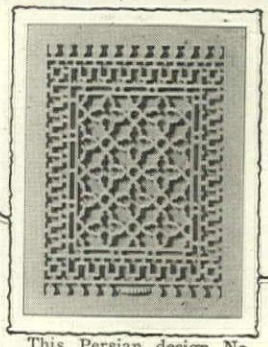
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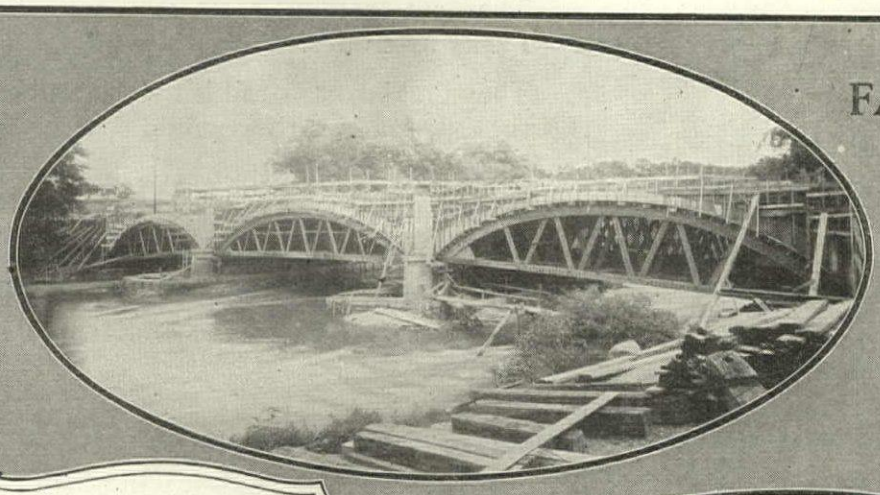
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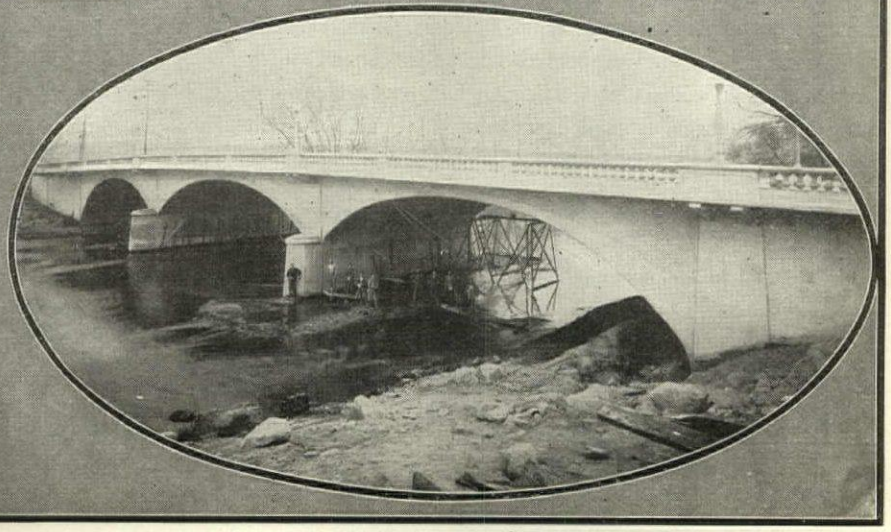
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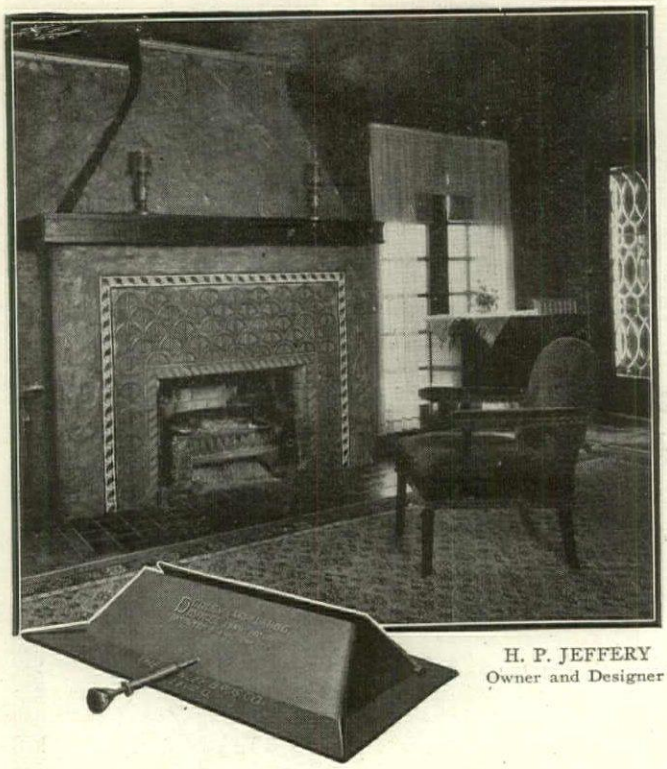
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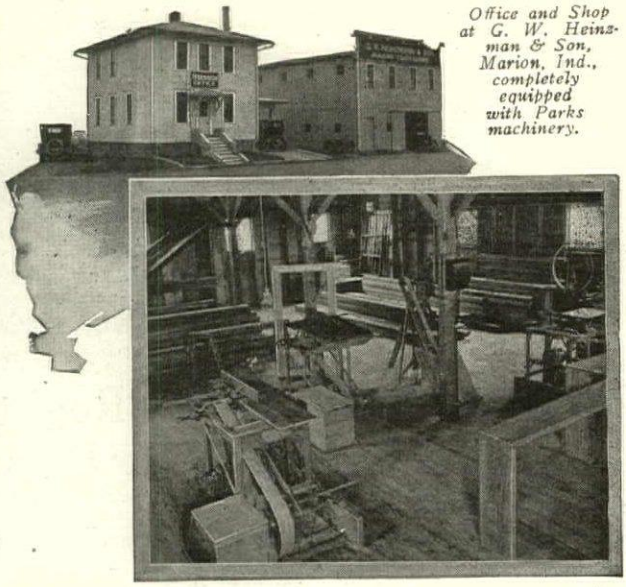
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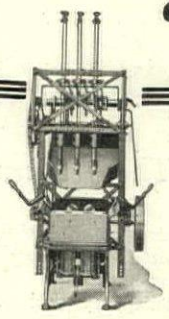
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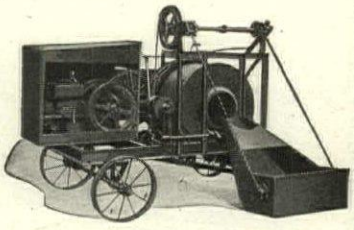
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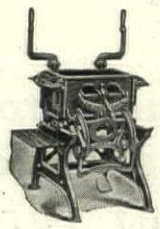
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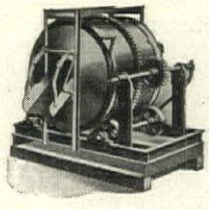
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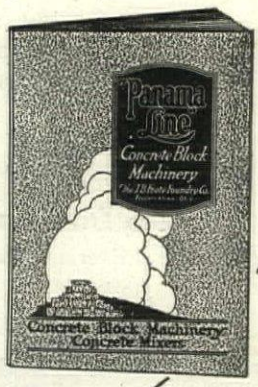
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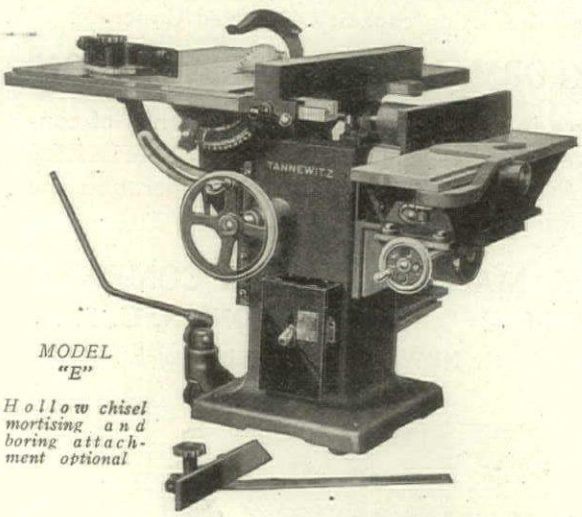
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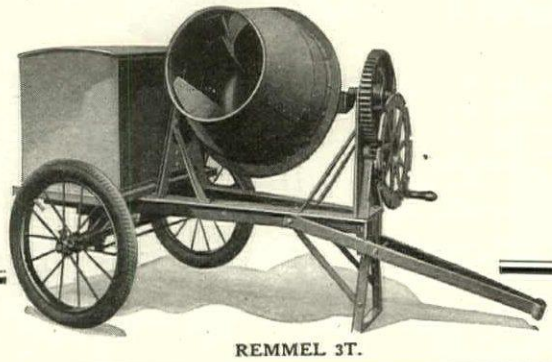
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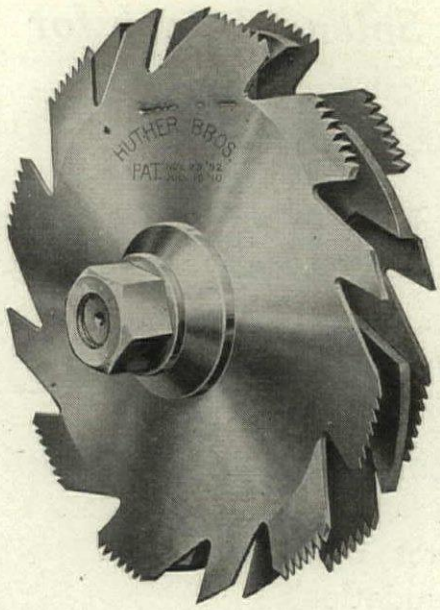
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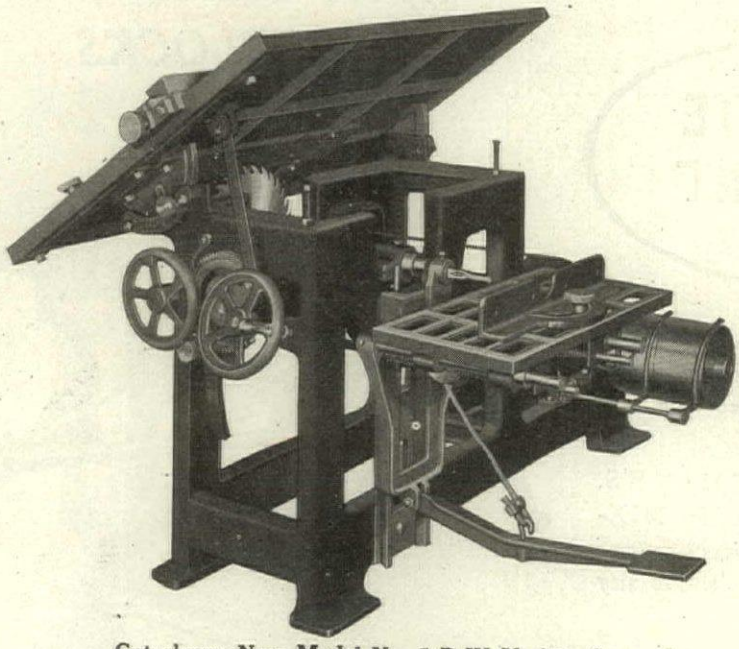
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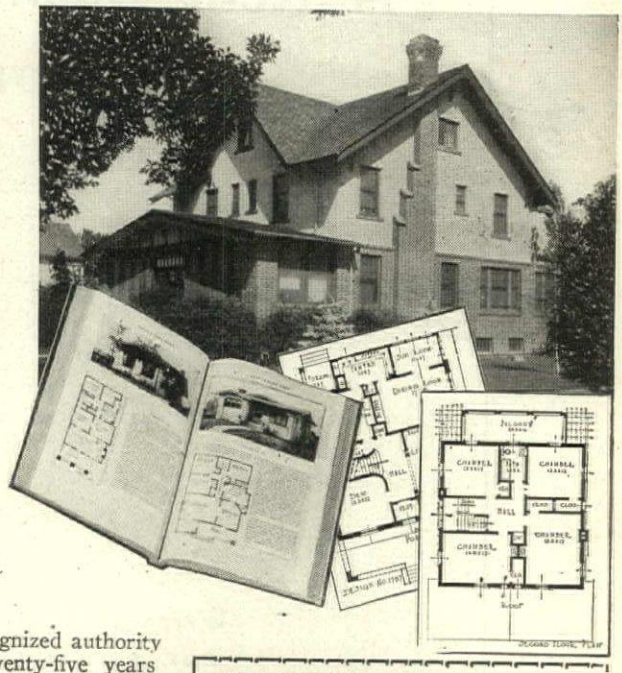
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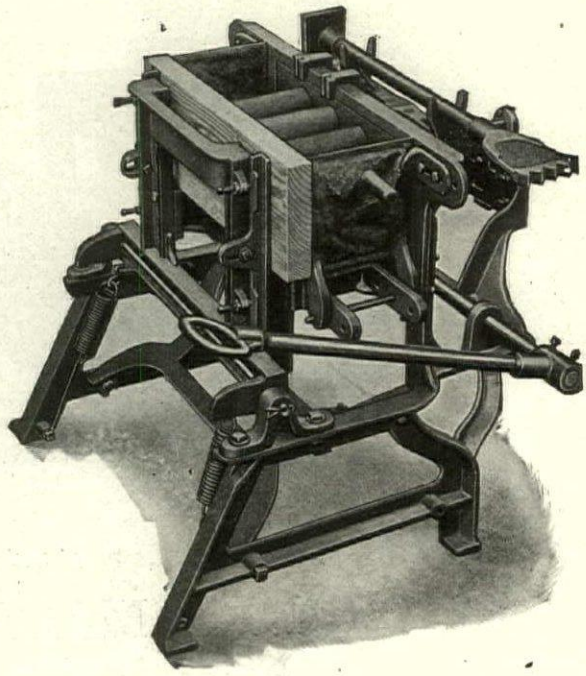
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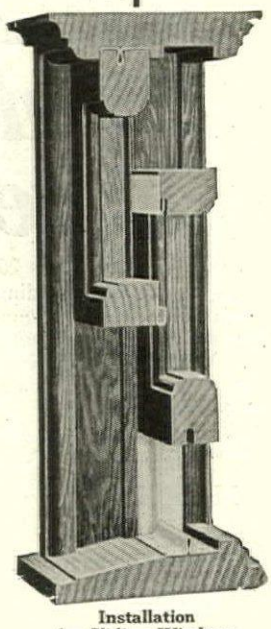
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Go into business for yourself. Be the Federal Metal Weatherstrip Contractor in your city. You will make good profits the year around.

Your customers will be pleased with the quality and reliability of Federal Metal Weatherstrips. These strips will not leak, rot or warp, and will continue 100% efficient during the life of the building. They decrease fuel consumption and keep out dirt and noise. Are made in various forms to fit all doors and windows, and are easily and quickly installed.

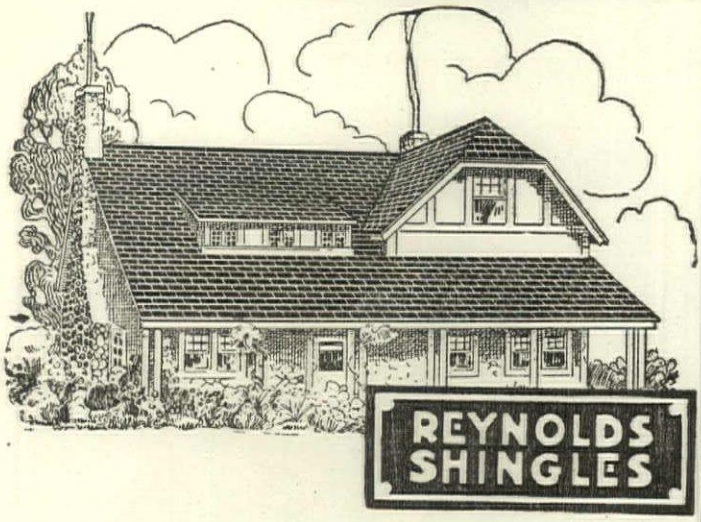
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For nearly a quarter of a century, REYNOLDS SHINGLES have been built to the highest standards of quality only.

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for architectural efforts of all kinds

THE architect is interested in face brick for its color, its texture and its flexibility in expressing architectural ideas.

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Fourth Annual

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Will Your Product Be Exhibited at This Show?

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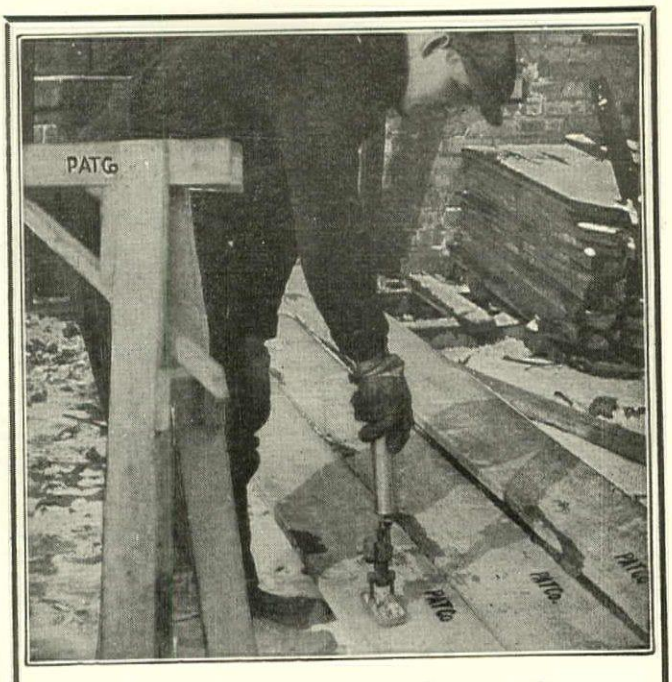
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Unbranded Tools and Equipment "Disappear"

Long Before They Wear Out

You lose tools and equipment on nearly every job, due to intentional or unintentional theft. Your tools get mixed up with others, and the contractor with the easiest conscience comes out ahead.

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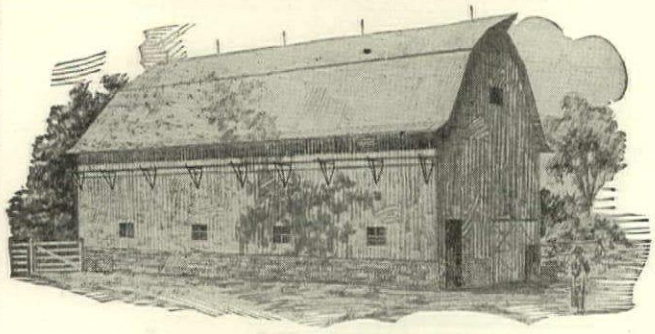
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The torch of the Everhot branding tool keeps heating the brand all the time you use it, so it stays hot and brands continuously. It was designed especially for contractors' use in protecting their equipment.

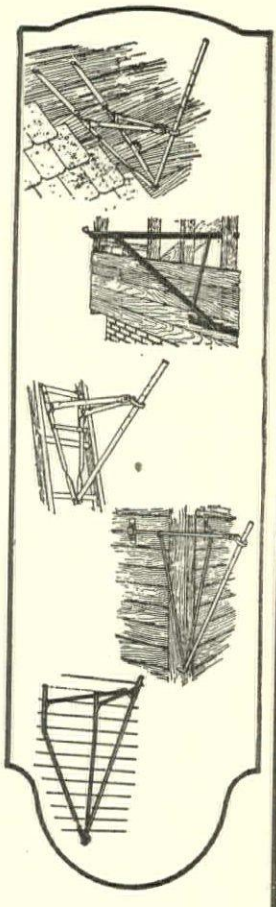
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Stop Wasting Money



These Reliable Scaffold Brackets are safer, quicker and far more economical than wooden scaffolds.

You builders and contractors who want to cut down your expenses and increase your profits—here is the way to do it. Buy Reliable Steel Scaffold Brackets. Once you buy them, you will never use expensive and unsafe wo oden scaffolds again.

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"The twelve Reliable Brackets I purchased from you last fall, have more than met with my expectations. They practically paid for themselves on the initial job, in labor and material for constructing wood scaffolding. They can be applied and removed in about 1/10 of the time that an ordinary scaffold can be assembled.

"I would never be without them, and would not take ten times their cost if I could not duplicate them. It is quite difficult to adequately express in words their true value to any contractor or builder. "Very truly yours, (Signed) "W. S. LADD."

That's what we think, too, because so many builders are now saving money with Reliables. Are you?

There is a Reliable for every kind of job you have. The illustration shows the Roofing Bracket, Hook Type Bracket, Ladder Bracket, Corner Bracket and the standard Scaffold Bracket. Every one of them is a money saver.

Send in your order now. We ship C.O.D. so you can see the brackets before you pay a cent.

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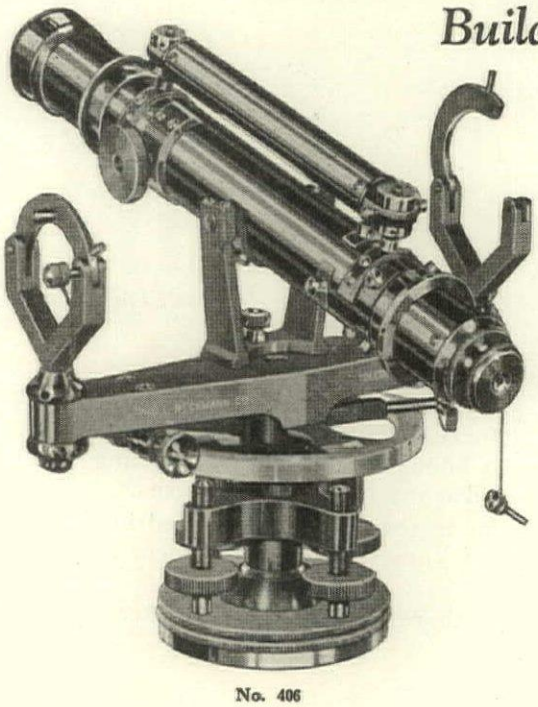
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Patented Oct 4 1910
No holes to plug after they are removed

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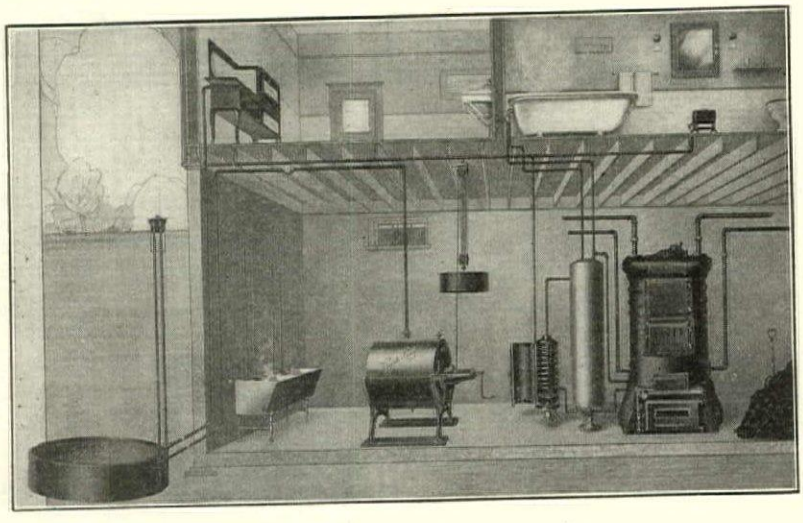
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The home builder today is more and more concerned over the permanence of his home investment.

Cheaper construction is giving way to better construction. Architects, contractors and lumber dealers themselves are taking the lead in this movement.

Long-Bell lumber products are manufactured to aid in giving this permanence to home construction. Every safeguard is used to put maximum building value into these products.

In the accuracy of modern equipment, care in trimming, uniformity of width and thickness, uniformity of grading and seasoning, Long-Bell manufacture is outstanding.

Long-Bell-built homes will last.

Lumber bearing the Long-Bell trademark is suitable for dependable construction.

Lumber dealers everywhere carry Long-Bell products or can obtain them.

THE LONG-BELL LUMBER COMPANY

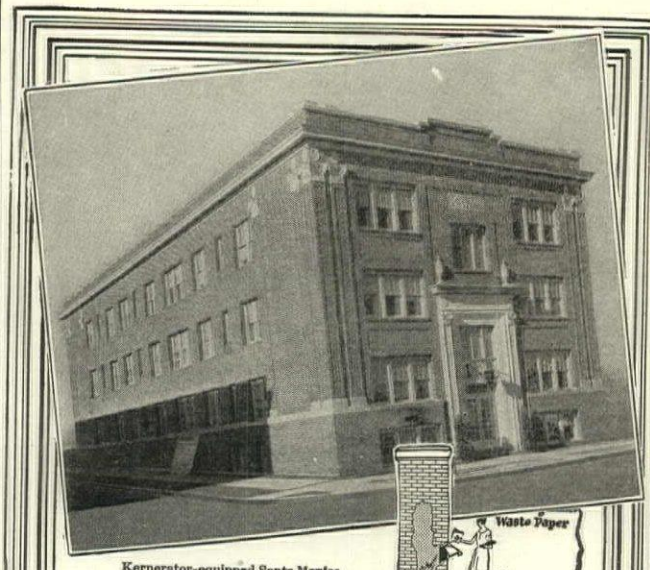
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KNOW THE LUMBER YOU BUY

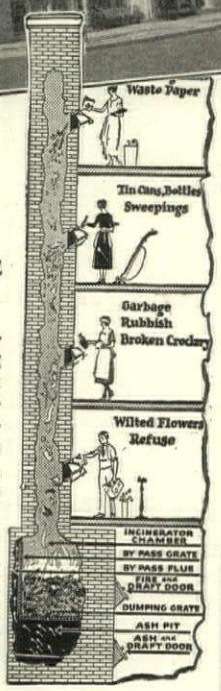


Kernerator-equipped Santa Monica Apartments, Minneapolis

One Reason Why the Santa Monica Has Never Carried a "For Rent" Sign

ARCHITECT Arthur Dahlstrom, collaborating with the C. F. De Zurik Company, Minneapolis realtors, again prove the cash value of planning for the tenant's convenience. In a dull season, the new Santa Monica was rented before completion and has never been vacant since.

Important among many other Santa Monica attractions is the Kernerator. The complete, permanent banishment of garbage can and rubbish pile costs nothing, since—



The Kernerator Uses No Fuel Whatever

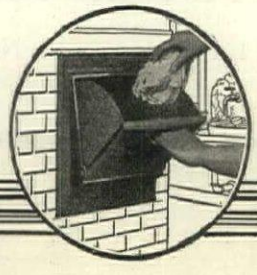
As the cutaway illustration shows, *all* waste—garbage, sweepings, tin cans, papers, broken glass or crockery, razor blades, shavings—in fact, litter and trash of every kind, is merely dropped through the handy hopper doors located in or near the kitchens on each floor. Falling to the brick combustion chamber in the basement, it is air-dried for occasional lighting. Everything is burned except metallic non-combustibles, etc., which are flame-sterilized for removal with the ashes. *No oil, gas, wood, coke or other fuel ever needed.*

The Kernerator must be BUILT-IN—can't be installed later. For details consult Sweet's (1924) Pages 2536-37, or write—

KERNER INCINERATOR COMPANY
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KERNERATOR
Built-in-the-Chimney
REG. U. S. PATENT OFFICE

Drop all waste here



—then FORGET it!

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Permanent Colored Stucco and Marble Dash Finishes

Ritestone stucco is specified by architect and home owners and used by builders who demand a super mineral strength body. A material which is flexible and waterproof, being immune to streaks during rainy and damp weather. A material which thru a wide range of uniform permanent colors worked in harmony with textures of the individual's selection blends beautifully with all types of architecture and exterior surroundings. Ritestone Colored Stucco is a boon to those who desire Magnesite Stucco for its many advantages but who are not impressed with Marble Dash Finishes. The colors are permanently embodied in the Ritestone, the first cost is the last, eliminates upkeep, continues high-class appearance and makes valuations permanent.

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15,000 WINDOWS

In One Building Operation Equipped in 5 Weeks with

A B C

Patents Pending

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WEATHERSTRIPS

No Dust—No Sticking—No Rattling—Installed Without Removal of Sash

Winter's blasts hold no terrors for the dwellers in homes and workers in offices protected by this most-efficient-of-all weatherstripping. Our staff having just finished a large installation in the phenomenal time of five weeks for fifteen thousand windows, we are now ready for IMMEDIATE INSTALLATION of A B C Weatherstripping in new or old buildings—apartments, dwellings, offices or lofts.

UNUSUAL FEATURES OF A B C WEATHERSTRIPS:

Made of Spring Bronze, follow any expansion, shrinkage or warp of the sash. Always snug against the sash with no possibility of sticking the window. Installed without grooving or removing the sash, SAVING TIME, LABOR AND EXPENSE.

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1/5 *of All Brickwork is Mortar*

For Color Harmony—



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CLINTON MORTAR COLORS bring warm and harmonious effects to mortar or stucco. Thus, at low cost, they increase selling values and make homes quickly attractive to purchasers.

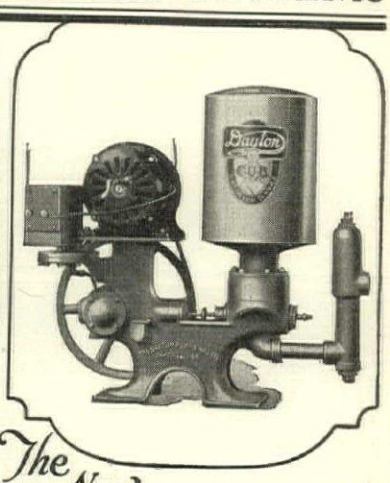
Clinton Mortar Colors are an old reliable brand scientifically made by a company with thirty-eight years' experience. Clinton Mortar Colors are permanent and reliable, and insure satisfaction. They are sold by dealers everywhere.

Send for folder illustrating, in color, brickwork and stucco in which Clinton Colors have been used. Accurate formulas for mixing are included.

The Clinton Metallic Paint Co.
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CLINTON NEW YORK

SUBURBAN WATER SYSTEMS





The New DAYTON CUB $85

For City, Suburban or Country Use— the Guaranteed "DAYTON"

FOR any requirement—for city, suburban or country use—for home, school, club or any other building—there is a *guaranteed* Dayton Pump to meet it.

Since the Dayton Pump & Mfg. Co., fifteen years ago, pioneered the way in the manufacture of private water systems, the dependability of Dayton Pumps for continuous, uninterrupted srevice and freedom from repair bills, have made them justly recognized as leaders.

Now, there is a new Dayton pump—the Dayton "Cub"—with the same qualities of dependable construction that have heretofore characterized these pumps built into it. With a capacity of 200 gallons per hour, it is easily the outstanding value at the price—and it is *guaranteed.*

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The Dayton Pump and Mfg. Co.
DAYTON, OHIO, U. S. A.



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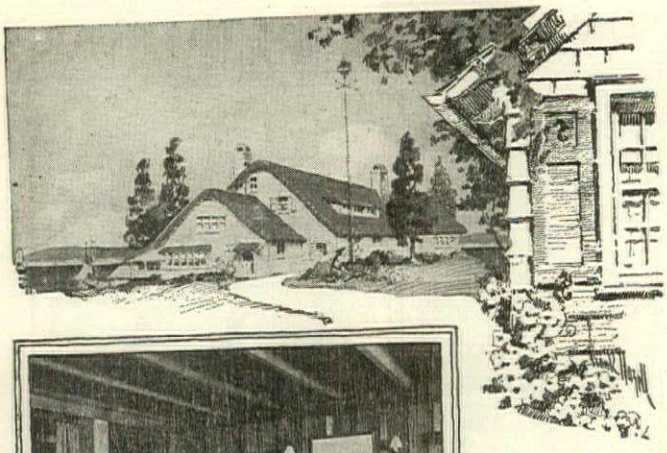
Please send at once your catalog and prices on Dayton Pumps.

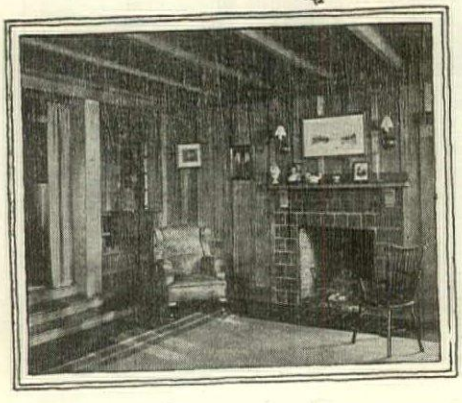
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"Dayton" Pumps

Make the water do the running





Residence at Santa Barbara, Cal. Walls and ceiling of Redwood treated with acid, producing a brown sheen with suggestion of the natural color of Redwood. No wax or varnish used.

Russell Ray, Architect, Chicago and Santa Barbara.

Redwood Finish

for exteriors and interiors

For Exterior Woodwork—such as siding, frames, cornices, gutters, porch flooring, rails, balusters and lattice.

Redwood is protected against all forms of fungus rot and decay by a *natural* preservative which permeates the wood fibre during growth.

The durability of Redwood may be judged by the report of the U. S. Forest Products Laboratory at Madison, Wisconsin. Using white oak as the standard with a rating of 100%, it places Redwood in the highest class with a value of 125% to 175%. The real meaning of this rating may be better appreciated when it is realized that some woods used for exteriors are rated as low as 35% to 50%.

Redwood takes and holds paint exceptionally well and contains no pitch to bleed through and mar the finished surface.

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California Redwood Grades

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Clear Redwood, as the name implies, is all clear heart stock, entirely free from sap and knots and allowing a small amount of bird's-eye.

Sap or A

This grade is also clear, as far as freedom from knots is concerned, but allows any amount of bright sap. Owingto the contrast between the reddish tone of the heart wood and the white of the sap wood this grade is generally used where a paint finish, rather than a natural or stained finish, is applied.

The Pacific Lumber Co.

Redwood

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Snow-White Steel



JOHN NYDEN, Architect

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See Sweet's Index; or write for illustrated "Cabinet and Mirror" catalogue.

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Makers of Hess Welded Steel Furnaces.
1201 S. Western Avenue, Chicago

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Owes its popularity to its perfectly balanced automatic roller, silent chain, solid one piece aluminum dust pan, perfect vacuum system of dust collecting, its ability to do six men's work and do it better and the total absence of vibration. This sturdy machine requires no experienced operator and will surface right up to the quarter round without the use of an an edge roller.



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TRADE MARK REGISTERED

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Garment Center Building, New York, N. Y. (WEISTEEL EQUIPPED) Walter M. Mason, New York, N. Y., Architect.

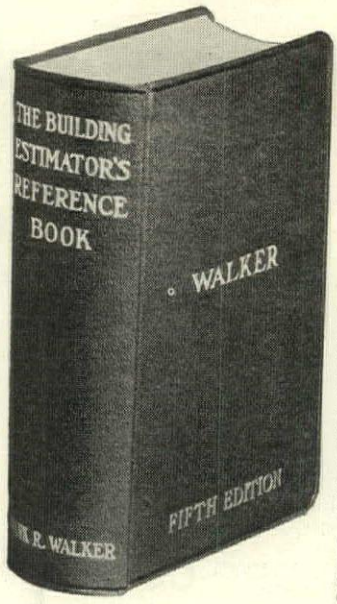


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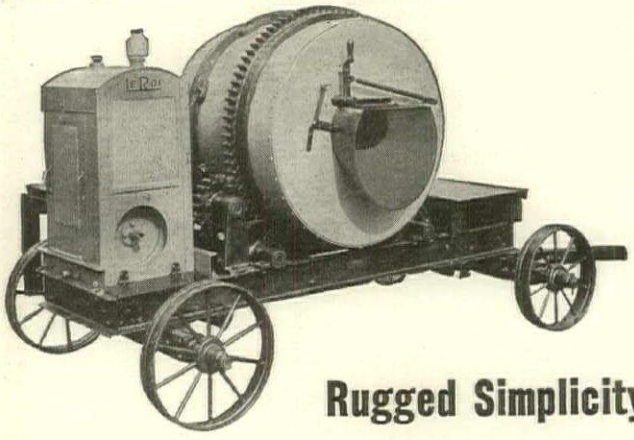
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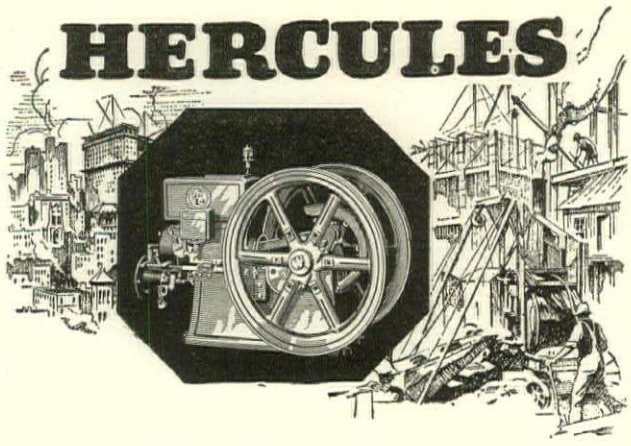
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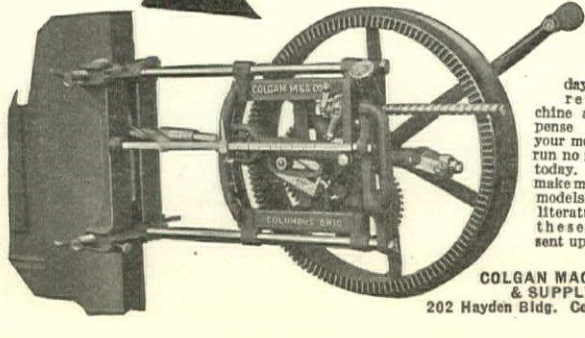
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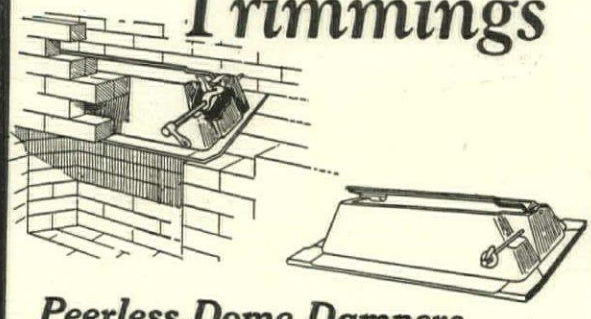
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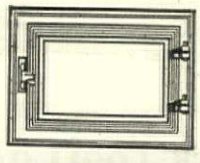
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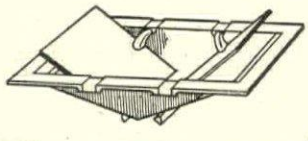
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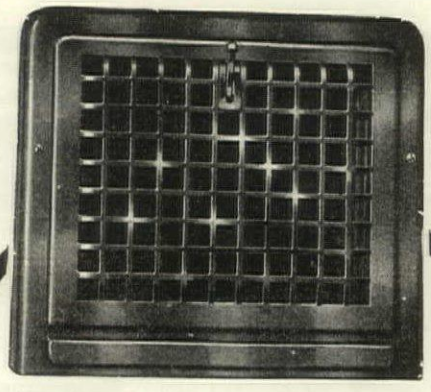
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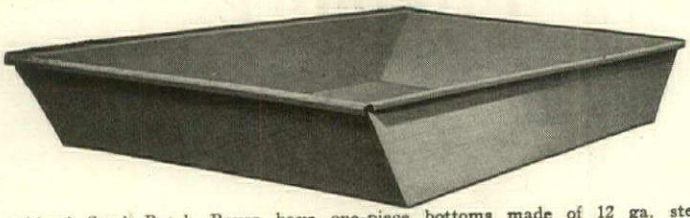
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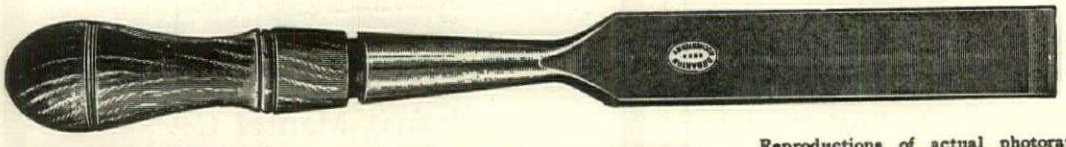
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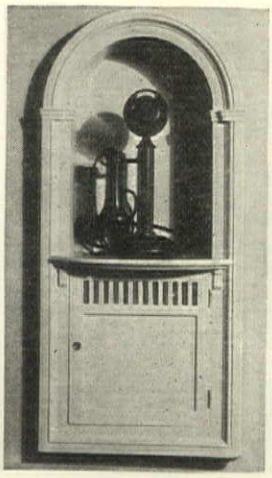
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The Phoenix Phone Cabinet



(Patent Pending)

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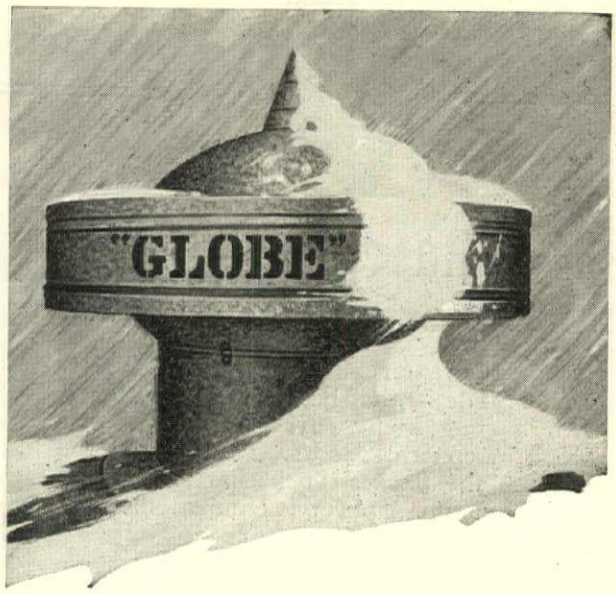
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A BELL BOX CASE

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give perfect, continuous ventilation—with absolute elimination of trouble—at least expense.

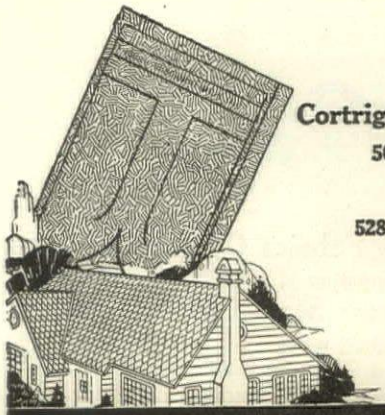
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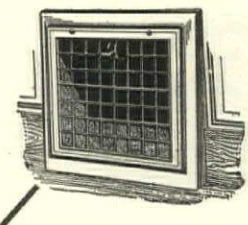
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The initial cost is insignificant compared to the saving. For example, the usual life of the wall decoration is three years and the average cost $18.00 per room, or $6.00 per room per year.

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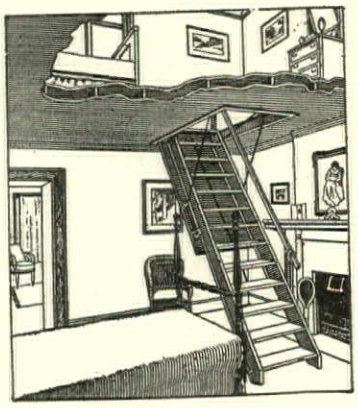
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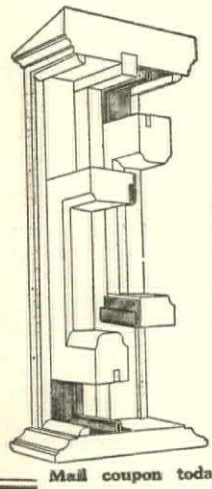
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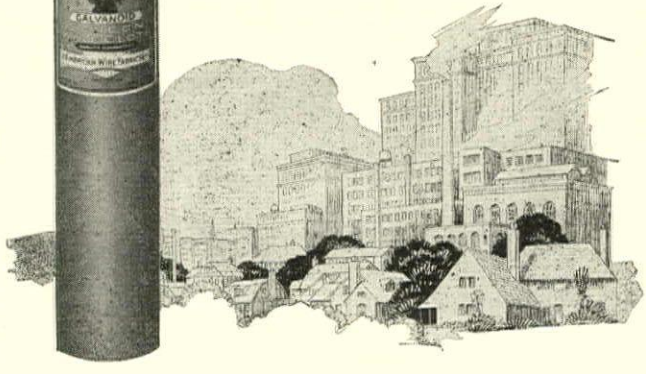


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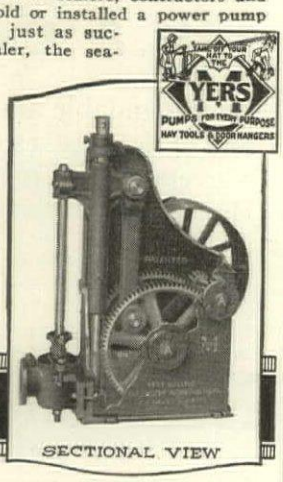
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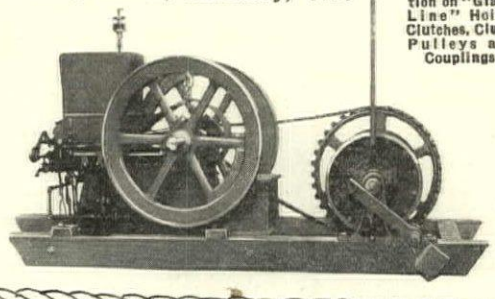
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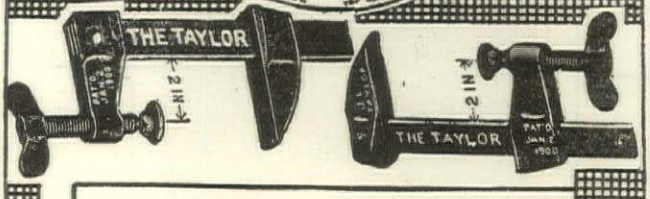
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An Investment— Not an Expense

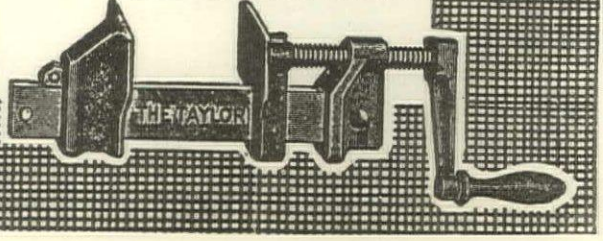
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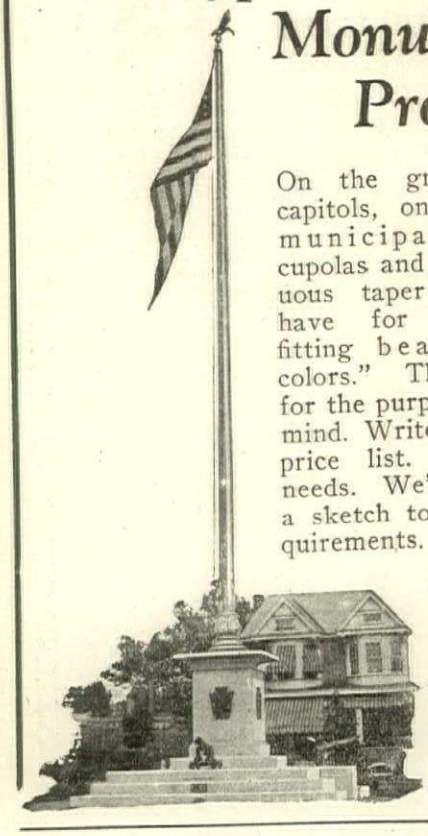
ANCHOR CONCRETE MACHINERY CO.
534 Dublin Ave., Columbus, O.

ANCHOR

COMPLETE BRICK, BLOCK AND TILE EQUIPMENT

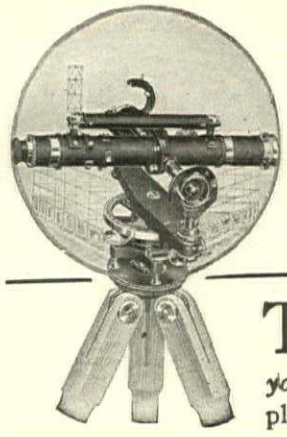
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A Type for Every Monumental Project



On the grounds of our capitols, on the roofs of municipal edifices, on cupolas and domes—continuous taper welded poles have for years proved fitting bearers of "the colors." There is a type for the purpose you have in mind. Write for catalog and price list. Explain your needs. We'll gladly submit a sketch to meet your requirements.

The Pole and Tube Works
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Exclusive Pole Specialists
NEWARK, N. J.



The basis of accurate work—

THAT confidence which your clients place in *you*, you must be able to place in your *instruments*.

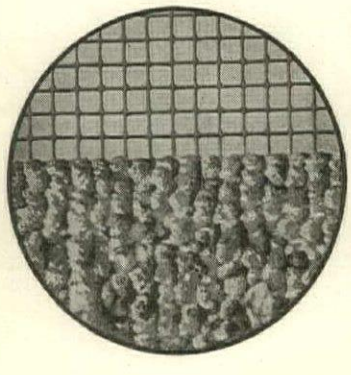
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are dependable and accurate. From their fine optical lenses down to the last screw—every part is made at our own factory. Hence our unqualified guarantee.

Illustration shows our No. 5115 Convertible Level. Details and Price upon application.

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CHICAGO 516-20 S. Dearborn St. ST. LOUIS 817 Locust St. SAN FRANCISCO 30-34 Second St. MONTREAL 5 Notre Dame St. W.
Drawing Materials, Mathematical and Surveying Instruments, Measuring Tapes



Clinton Wire Lath

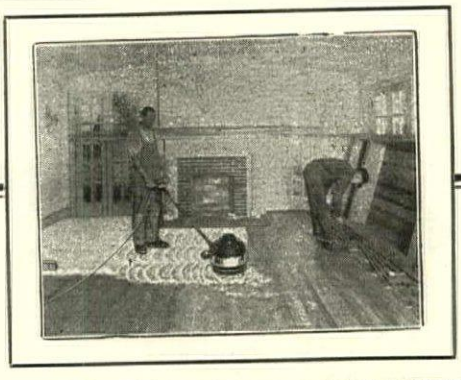
Standard Since 1856

Adapted to all kinds of plain and ornamental plastering.

A glance at the key side of a wall plastered on Clinton Wire Lath will show the perfect manner in which the plaster surrounds the lath. The clinch of the back plaster will so cover every wire that it is difficult to detect a single strand showing in this perfect key.

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GENERAL OFFICES
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Worcester Buffalo Philadelphia Cleveland Detroit Chicago San Francisco Los Angeles Seattle



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Practical users having had experience with floor machines of various types prefer the Electric Rotary Machine, because it is easier to handle, more efficient as well as economical, and can be used for many different kinds of work.

Sandpapers, refinishes old wood floors, surfaces and polishes marble, terrazzo, cement, etc. Has no equal for scrubbing as well as waxing and polishing.

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$50 STARTS YOU NOW

Take advantage of our easy payment plan and get started at once. You can pay for the machine while you are using it.

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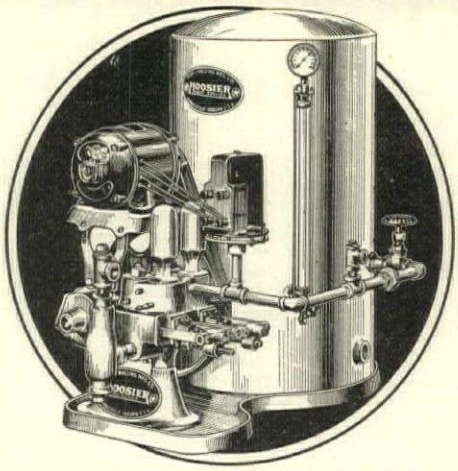
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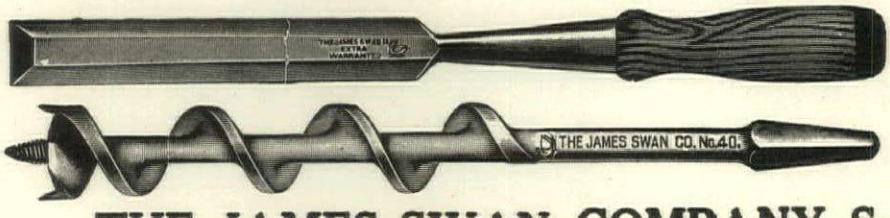
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THE JAMES SWAN COMPANY, Seymour, Conn.
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With the Kennedy Utility Saw On the Job, You Will Never Miss the High Priced Rigs

Takes saws from 6" to 10". Will take 2" Dado.

$38.50



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Connect with any lamp socket and begin work. Takes saws from 6" to 10". Will rip or crosscut up to 3½" material. Cuts any angle. Table tilts to 25 degree angle. Table is 13 x 22½", with throat 2 x 10" and will take dado plates up to 2" width. Made of best grades of iron and steel and all parts accurately machined. Spindle is supported rigidly by two ground and hardened ball bearings. End of spindle bored to take drill chuck, or will support emery or sander. By exchanging pulleys you can reduce speed and use a saw for cutting metal. Takes only 7 x 14" bench space. Weighs about 50 lbs.

Price, including pulley, two guides, one 7" crucible steel saw, and spindle sleeves for use with dado.....$38.50
Furnished complete with ¼ H.P. motor for $53.50. Prices f. o. b. Philadelphia.

A ¼ H.P. motor furnishes sufficient power for practically all work, but for capacity cutting with 9 or 10" saw we recommend a larger motor, which we can furnish at a saving. Send check or money order and put the Kennedy to work. Your money back if you don't say it's the best value. Send for the saw and let it talk for itself, or mail coupon for full information on this and other models.

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Please send full information on all models of the Kennedy saw.
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A profitable line for carpenters, contractors, builders, or architects.

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SAFETY FOR $5.00

SAVE

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Advantages for Painters and Tinners

Fitted to any ladder in two minutes.

You risk life and limb every time you climb a ladder.
Accidents cost money, involve delay, pain and suffering.
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Seaman's ladder Brackets make ladders safe.
Ask your dealer; if he cannot supply you, order direct.
Money refunded if not as represented.
Made of Drop Forged Steel—5 pounds, 10 oz. per pair.

Write for catalog and jobbing prices.

Seaman Safety Bracket Corporation

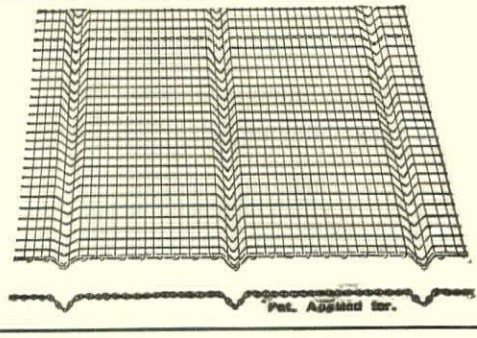
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SHEET METAL ROOFING MATERIAL

For Residences and Other Buildings Where Architectural Beauty and Long Life Are Desired

When you put a "Mecco" Spanish Tile roof on a building, you can be sure it will last as long as the structure. It will be proof against fire, rain, wind and lightning. It will not buckle or split. The slight difference in prices is insignificant when compared with the beauty and added years of service that a "Mecco" roof delivers.

"Mecco" Shingles make an equally sturdy roof; will not warp, split or buckle. Especially attractive to contractors and builders because quickly applied, therefore labor-savings. Four designs, in one size only—10 in. x 14 in.—packed one square to the box, sufficient to cover 100 sq. ft. flat surface. Allowance for loss in hips and valleys must be made.

MECCO METAL SHINGLES

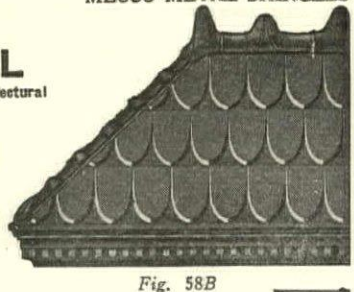


Fig. 58B



Fig. 231 Individual Field Tile

Fig. 227 gives an illustration of the side lock (open and closed) used on "Mecco" Metal Spanish Tile and "Mecco" Metal Shingles. This is the best and most satisfactory lock made.



Fig. 227

Fig. 227. The side lock is a guarantee against leakage because of the non-syphoning feature. Although roof may be flooded, water would not seep through or drain over seams.

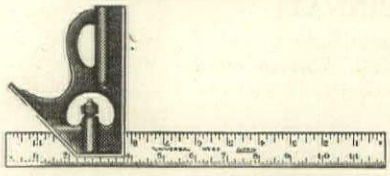


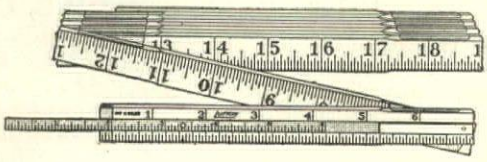
Fig. 58 "Ideal" Shingle

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Manufacturers of Everything in Sheet Metal Building Material—Write for Catalog and Samples

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Adjustable Try and Mitre Square with level, a tool of many uses. The "Universal" Steel Tape, accurate, durable and so low in price that no builder can afford to be without one. Improved Boxwood and other Rules, such as Spring Joint and Aluminum Rules with and without hook, the Boxwood Extension Rule, etc.

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GET INTO THE FLOOR SURFACING BUSINESS WHILE THE FIELD IS FRESH. $40 to $50 a day easily earned with an AUTOMATIC—the result of 16 years' manufacturing experience. Force Feed Lubrication—SKF Ballbearings—Whitney Silent Chain—Roller Pressure Regulator—ALL Dust taken up on forward operation with New Vacuum Nozzle. All working parts inclosed. Write today—let us tell you how to get started in this paying business and how you can make good by following our method in working up your business. Free trial. Part down—balance easy payments.





The Little Automatic Surfacing Machine (on table) is a wonder for removing varnish from desk tops, counters, etc., or for all sorts of new work.

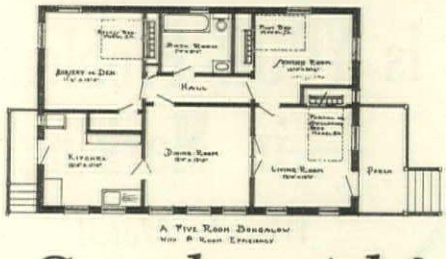
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A Five Room Bungalow
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Get that job!

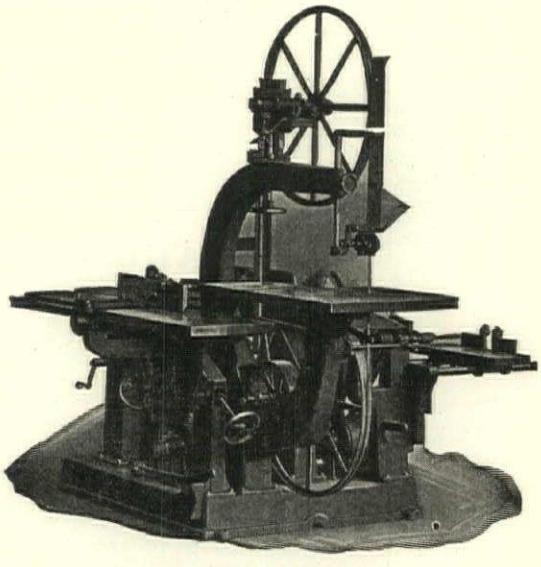
BUILD the convenience of one or two additional rooms, at no increased cost, into every home you put up this year. Give your customers the sewing room, nursery or library they want, but can't afford. You will get the building job when you do.

You can give more rooms without cost by installing Concealed Beds. Every home owner likes them. They are more comfortable and better looking than ordinary beds.

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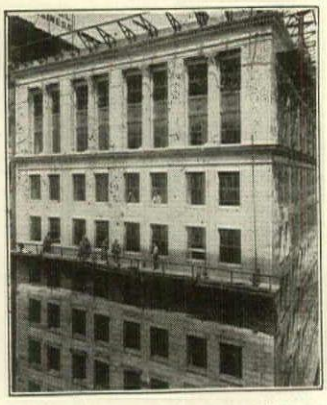
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THE CRESCENT UNIVERSAL WOOD WORKER continues to give complete and lasting satisfaction wherever used and you may buy the CRESCENT with the full confidence that the machine will come up to your highest expectations in every way.

Send today for special circular giving complete description and illustration.

The Crescent Machine Company
206 Main Street Leetonia, Ohio, U. S. A.



Unretouched photo shows contrast between finished and unfinished surfaces.

The BERG Concrete Surfacer and Finisher

WORKS TRANSFORMATION ON
ATLAS BANK BUILDING, CINCINNATI

This 10 story cut-stone building was cleaned beautifully in quick time with only two **Berg** multiple steel brushes. **Unretouched** photograph of work in progress shows contrast between cleaned and uncleaned sections.

Contractors and Highway and Railway Maintenance Engineers use batteries of the BERG on buildings, bridges, culverts, walls, etc.

The Berg quickly removes fins, form marks and surface irregularities. Better work at less expense than ordinary methods. Used on some of the country's largest contracts. Send for interesting details.



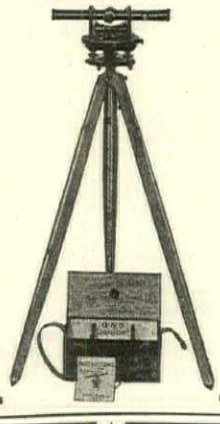
THE CONCRETE SURFACING MACHINERY CO.
Dept. J., 4669 Spring Grove Avenue **Cincinnati, Ohio**

G & B

$81.00 The G & B Standard Convertible Levels The G & B Junior $31.50

High Grade
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Unsurpassed Accuracy, Durability and Precision. Clamp and Tangent adjustments. Horizontal Circle. Vernier reading to 5 min. Simple convertible feature. Ground and graduated Level Vial. Complete in every respect and the most dependable Instrument on the Market. A $100 Instrument Complete for $90. *Send for Circular C.*



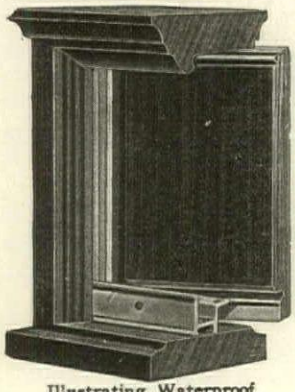
The World's greatest all around low priced Convertible Level for general Building, Construction and Farm Work. Simple to operate; Accurate and Durable. Powerful Telescope Ground Vial. Angles can be read to degrees. Tripod, Instrument Box, Book of Instructions complete and at a price you can afford to pay. Money cheerfully returned if not satisfied.

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WEATHERSTRIP IS THE BUSINESS FOR YOU TO START

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THIS WISSLER PATENTED LEVEL

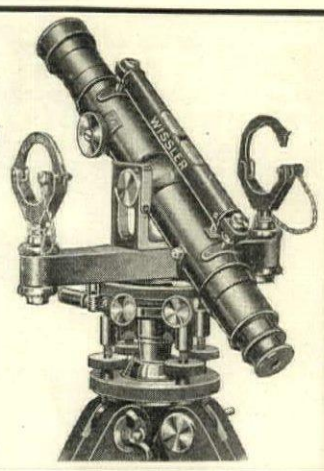
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Bovee's Horizontal Wood and Coal Furnace

Established 1895

RELIABLE, DURABLE AND ECONOMICAL

Manufactured in all sizes, having 20-inch to 36-inch Fire Pots. Combustion chamber more than double the size of the average furnace.

Save 40% in Fuel

SPECIAL TO CONTRACTORS

Very Easy to Install. No Tinner Required.
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Compound Radiator Furnace

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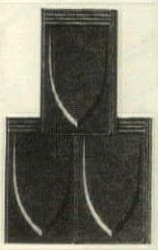


Fig. 157
Note the construction of patent Interlocking Device used on Edwards Metal Shingles and Spanish Tile.



Fig. 367
Metal Spanish Tile for main part of roof.

Edwards "Queen Anne" Metal Shingles



Residence, Senator Geo. S. Nixon, Reno, Nevada. Edwards Metal Spanish Tile used on this building.

EDWARDS
Metal Spanish Tile



It is wonderful what a remarkable transformation takes place when an "Edwards" Metal roof is properly applied to a house—all of the charm of the old Spanish Terra Cotta Roofing Tile is preserved, even to the color.

The house takes on a new lease of life. It seems a better place to live in. It helps put the stamp of progressiveness and thrift on a community. An Edwards Metal or Tile Roof is a real commercial asset and will bring a better return in rent or sale.

Edwards Metal Roofings made in various styles, to have the appearance of wood shingles, tile, slate, or any other roofing effect, and none of these fine artistic effects will cost any more than a plain, commonplace roof.

All Edwards Metal Roofing is easy to lay—no big expense for skilled labor—storms and winds will not wrench it loose or make it a rattle-trap. It is lightning-proof and fireproof—Reduces Insurance Rates.

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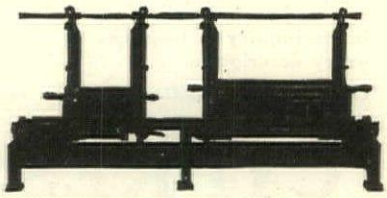
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423-443 Eggleston Ave., Cincinnati, O.
The World's Largest Manufacturers of Metal Roofing, Metal Ceilings, Metal Garages, Portable Buildings, Rolling Steel Doors, etc.



MAKE YOUR OWN BLOCKS
AND
MAKE MORE MONEY

Building is daily becoming more highly competitive. The successful builder economizes carefully. Making your own blocks saves you money, and you know what goes into them, know they are good.



The Hercules Concrete Block Machine makes any and all kinds of blocks; makes stronger blocks with less cement, makes two sixteen inch blocks at once. The large variety of interchangeable plate designs and adjustable parts form many molds which produce any desired face, size, or shape. The one machine makes them all! And it is inexpensive; soon pays for itself.

Buy what you need—add more parts any time, as you need them. Tell us your estimated present requirements and we will give you price of corresponding equipment. In any case, write for catalog which tells how and what the machine does and explains the "stronger blocks with less cement" statement above.

We also manufacture the Century Cement Bag Cleaner which cleans, counts, and bales the bags in one operation; saves cement, freight, time, labor, and bags.

THE WILLSEA WORKS

60 BROWNS RACE ROCHESTER, N. Y.

ZIMMERMAN
PATENT IRON BASE

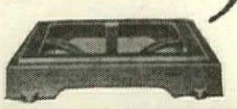


Saves $

saves wear and Tear on bottom of wood columns



No water can back under and between the turned wood base and iron base



The Zimmerman Patent Iron Base prevents rotting of wood columns. They protect the base of columns for all time.

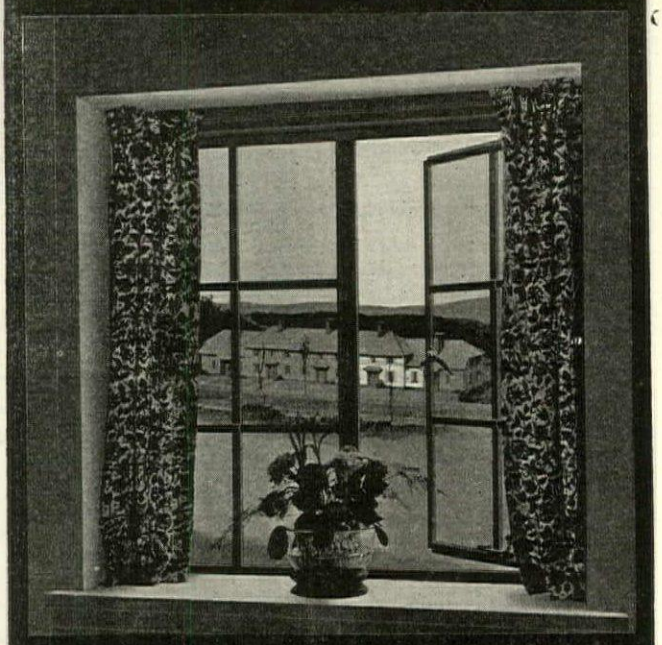
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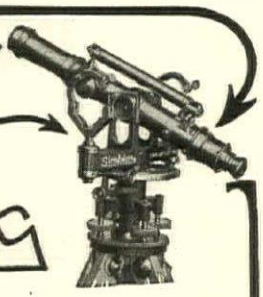
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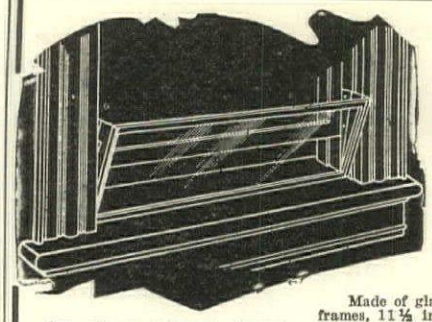


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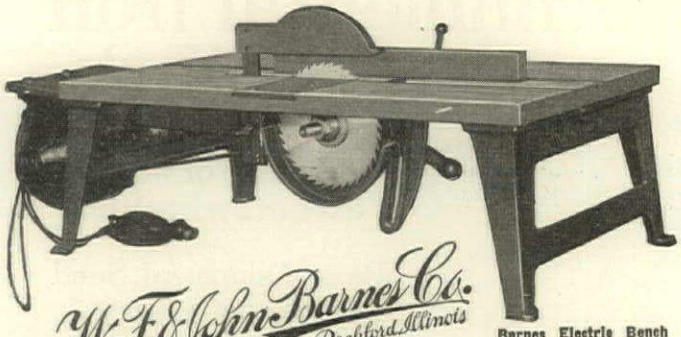
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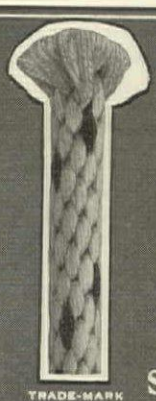
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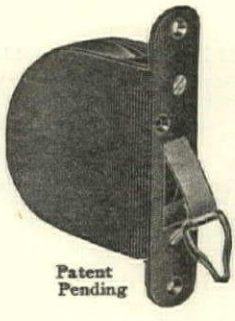
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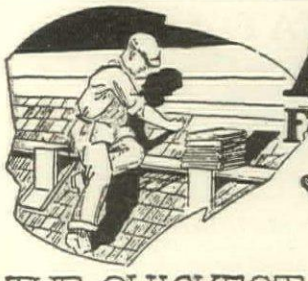
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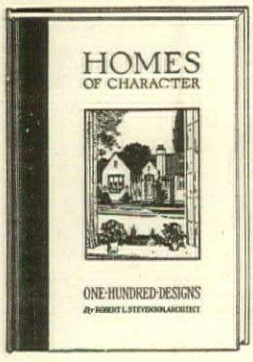
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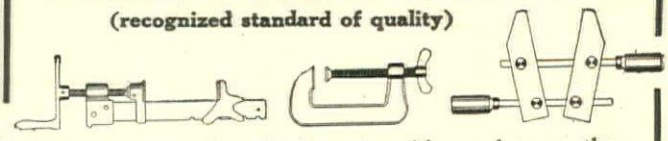
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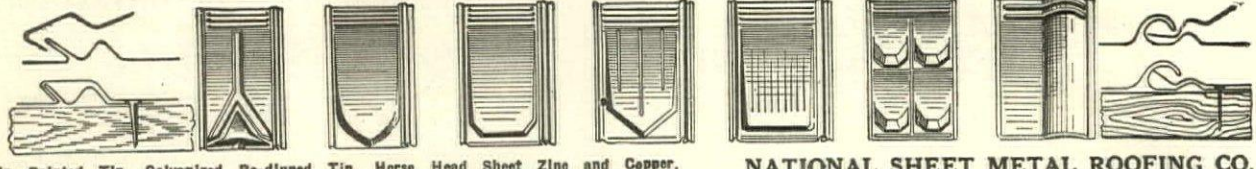
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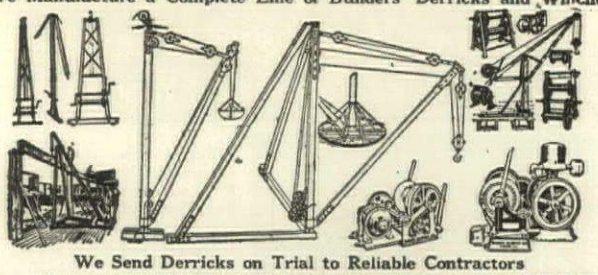
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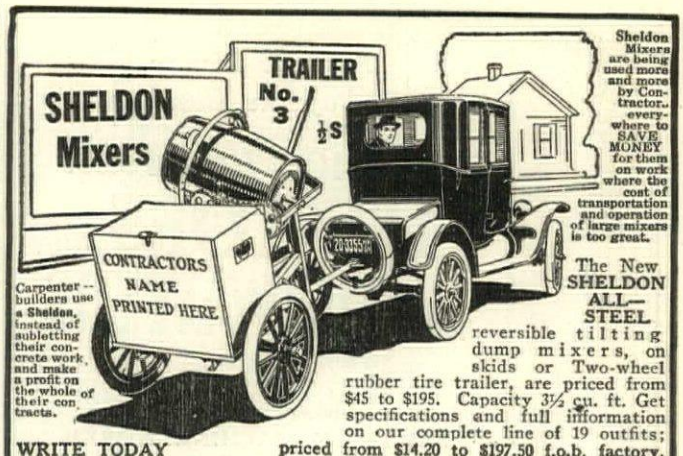
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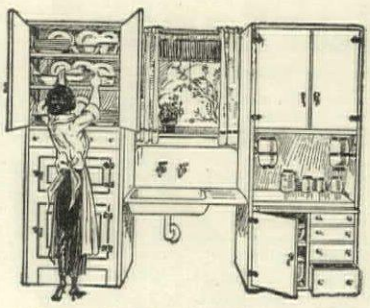
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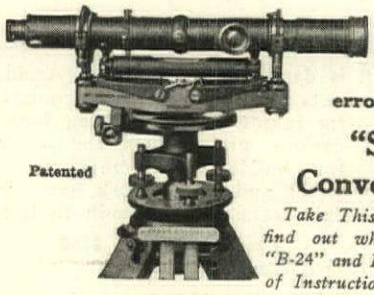
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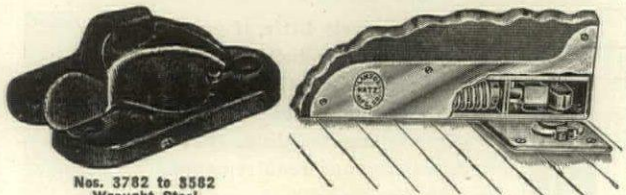
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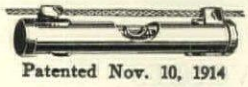


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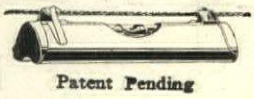
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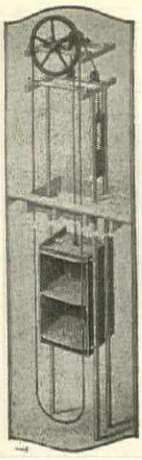
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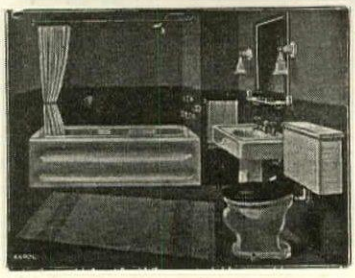
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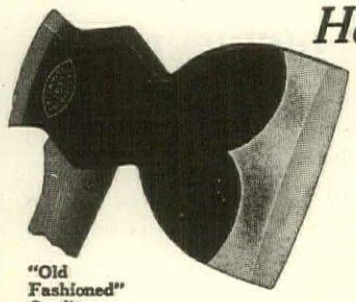
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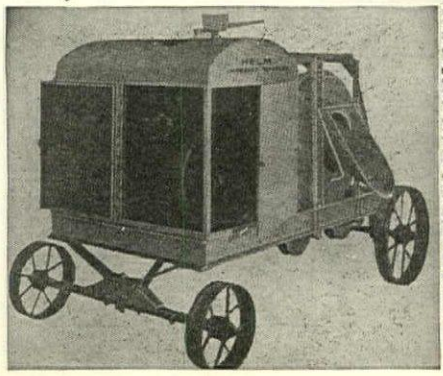
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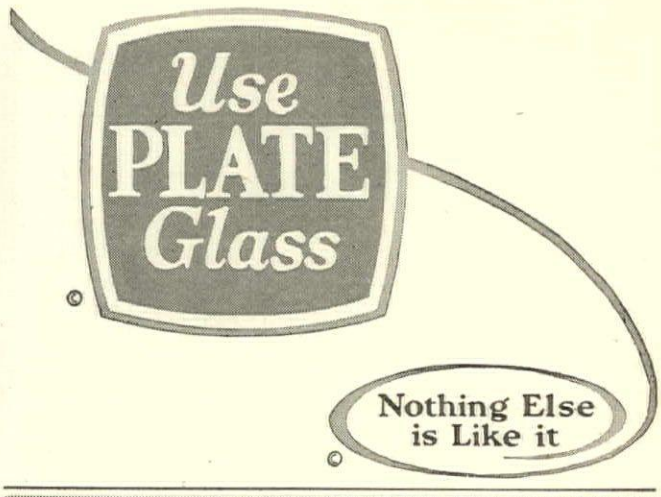


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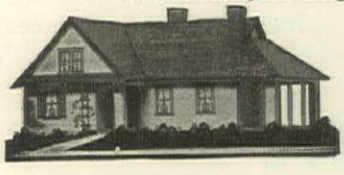




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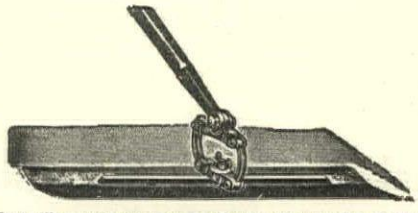
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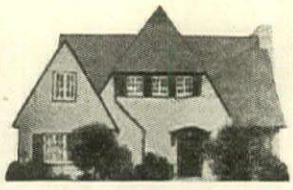
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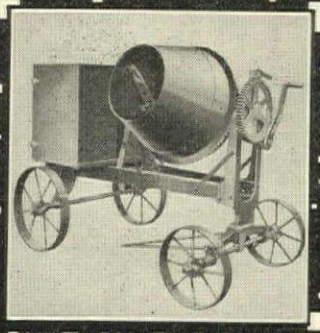
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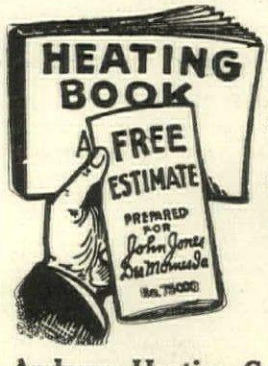
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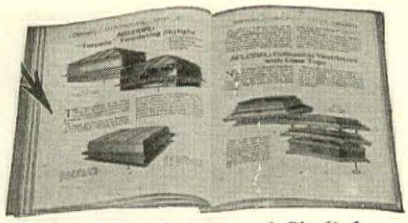
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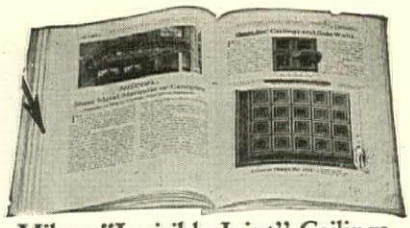
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For firesafe, crackproof, beautifully smooth plastered walls at most economical cost, Milcor Stay-Rib Metal Lath and Milcor Netmesh Lath deserve to be on the specifications. (See The Milcor Manual).



Milcor "Expansion" Corner Beads

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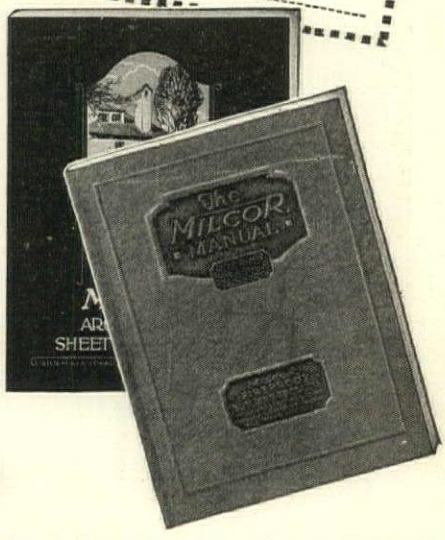
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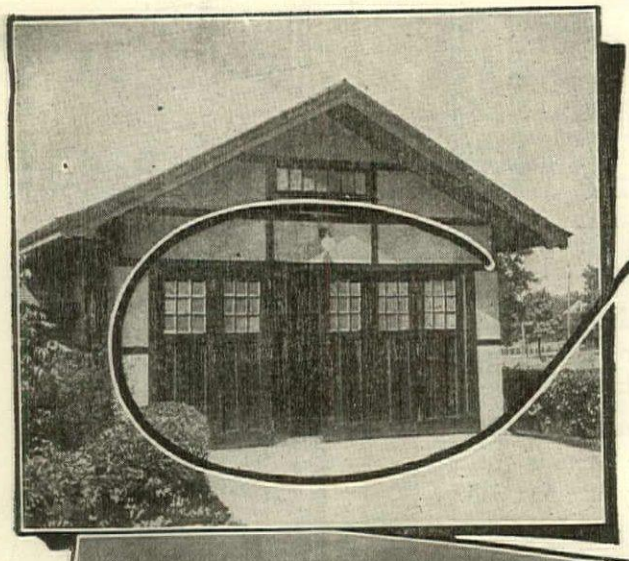
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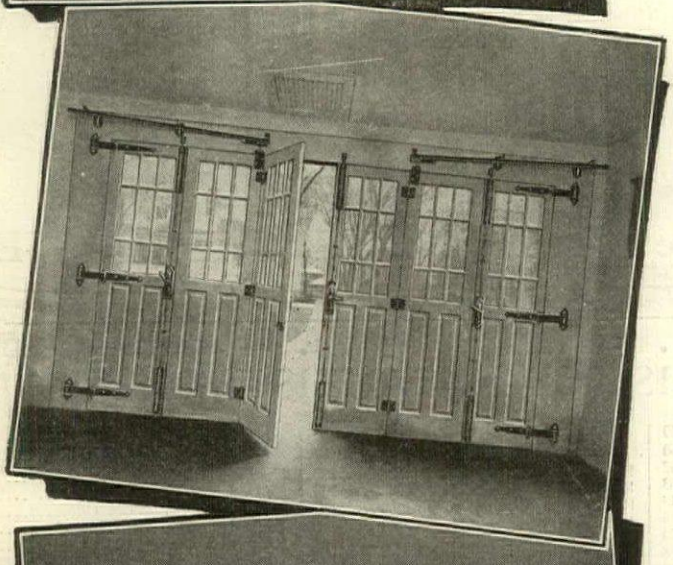
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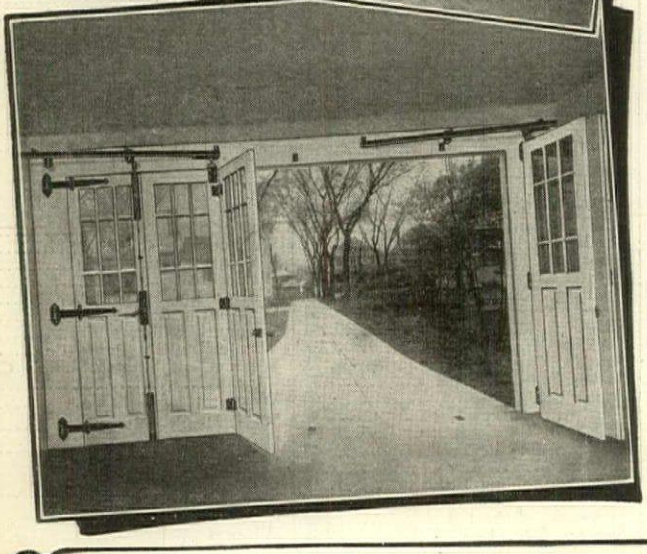
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No other part of a garage is subjected to such unceasing wear and tear as its doors. That's why they deserve to be hung on hardware which will make them a source of lasting satisfaction rather than the cause of daily annoyance. Warping, sagging, sticking, slamming—all these troublesome features of ordinary swinging doors are forever eliminated by the use of —

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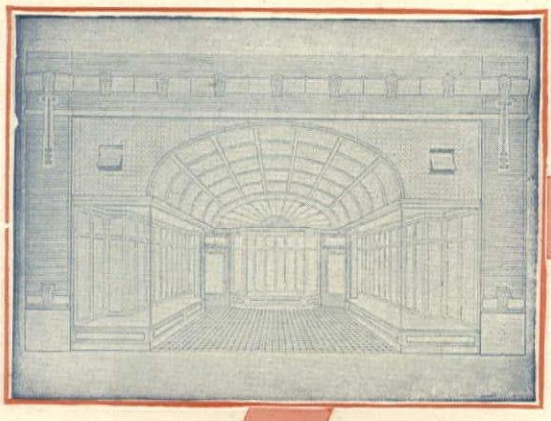
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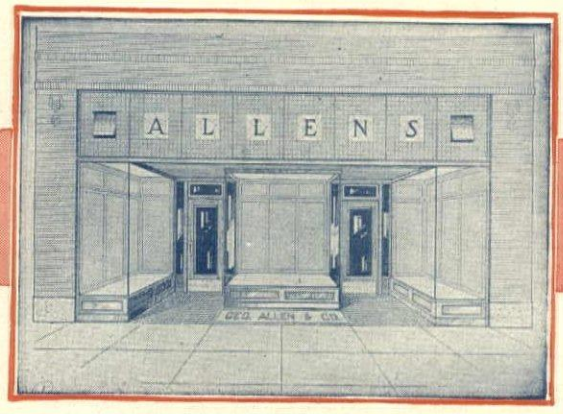
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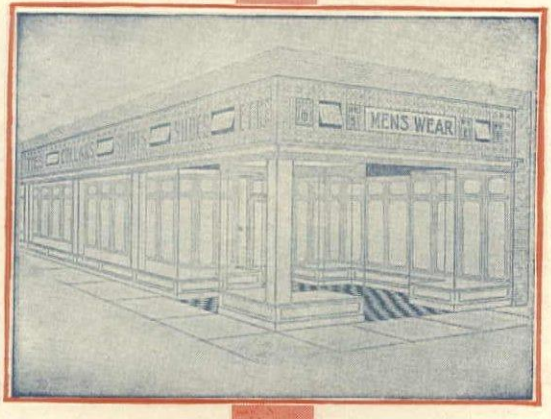
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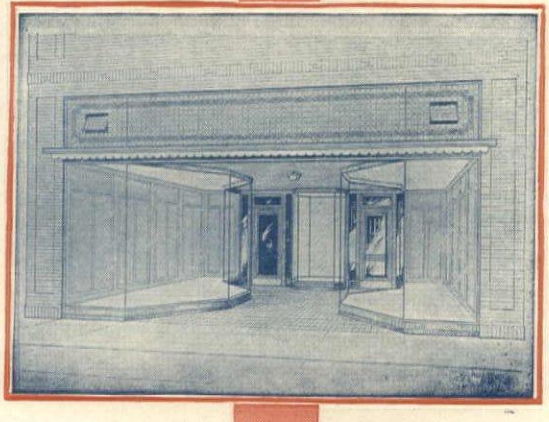
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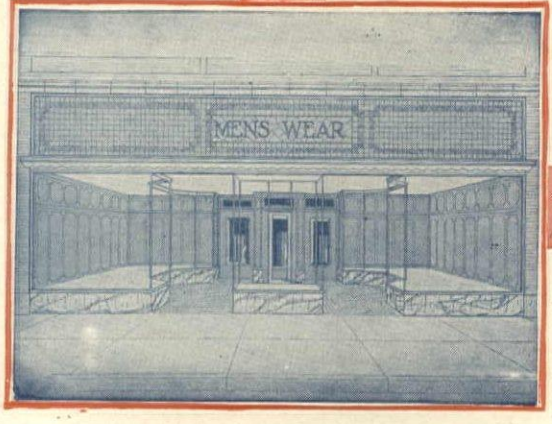
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